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September 8, 2008

California State Board of Equalization 450 N Street Sacramento, California 94279

Document No. 20802001.15

Attention:

David Gau

Regarding:

Limited Indoor Air Quality Survey

18<sup>TH</sup> Floor

Dear Mr. Gau:

On various dates in February and March of 2008, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted a limited indoor air quality survey on the 18<sup>TH</sup> Floor of the California State Board of Equalization building located at the above mentioned address. At the time of the survey, various samples were collected and direct-reading instruments were used to assess the general indoor air quality on that floor, with a clear emphasis on establishing fungal growth exposure potential data. I have enclosed our report, which included general observations, sample and direct-reading results, a discussion of the data, conclusions, and recommendations.

If you have any comments or questions regarding the information contained in this report, please do not hesitate to contact our offices directly at (310) 370-8370.

Sincerely,

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

Brian P. Daly, CIH, PE

President

3625 Del Amo Boulevard, Suite 180 Torrance, California 90503-1643 (310) 370-8370 (310) 370-7026 FAX www.hygienetech.com

### LIMITED INDOOR AIR QUALITY SURVEY

450 N STREET – 18<sup>TH</sup> FLOOR SACRAMENTO, CALIFORNIA

### PREPARED FOR:

CALIFORNIA STATE BOARD OF EQUALIZATION
450 N STREET
SACRAMENTO, CALIFORNIA

#### PREPARED BY:

HYGIENE TECHNOLOGIES INTERNATIONAL, INC. 3625 DEL AMO BOULEVARD, SUITE 180 TORRANCE, CALIFORNIA

**SEPTEMBER 8, 2008** 



#### 1.0 BACKGROUND

On various dates in February and March of 2008, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted a limited indoor air quality survey on the 18<sup>TH</sup> Floor of the California State Board of Equalization Building located at 450 N Street in Sacramento, California. During the survey, a variety of samples were collected and direct-reading instruments were used to assess the general indoor air quality on the 18<sup>TH</sup> Floor of the subject building. Various air and surface samples were collected in order to assess fungal growth exposure potentials and to establish fungal growth assessment information on selected building material surfaces. In addition, air samples were collected throughout the floor for fibrous dust, microbial volatile organic compounds (MVOCs), and total dust analysis and direct-reading instruments were used to determine airborne volatile organic compounds (VOCs), carbon dioxide (CO<sub>2</sub>), ozone (O<sub>3</sub>), air temperature, and relative humidity.

### 2.0 OBSERVATIONS

The interior building materials of 18<sup>TH</sup> Floor included, but were not limited to, metal window frames; painted gypsum board and/or metal windowsills; metal doorjambs and door frames; painted gypsum board walls in the general work areas; tile covered walls and painted gypsum board ceilings in the restrooms; suspended 2' by 4' ceiling tiles in the general work areas; vinyl cove base; carpet flooring in the general work areas; and ceramic or vinyl tile flooring in the restrooms and break rooms.

The furnishings in the surveyed areas included desks, upholstered chairs, shelves, fabric covered cubicles, office supplies, computers, and other electronic office equipment. The furnishings did not appear to support fungal growth, nor did they appear to have been affected in any other manner by water intrusion. However, be advised that visible accumulation of debris, dust, and other particulates was observed on the reverse side of all sampled HVAC supply air registers.

#### 3.0 SAMPLING AND ANALYSIS

Air samples were collected and subsequently analyzed for fungi (including yeasts, molds, rusts, smuts, and mushrooms) by trained and experienced microbiologists at a laboratory accredited by the American Industrial Hygiene Association (AIHA) and that successfully participates in the AIHA Environmental Microbiology Proficiency Analytical Testing (EMPAT) Program. Other samples were collected for airborne fibers, MVOCs, and total dust determinations using SKC® brand Airchek® 52 sampling pumps and the appropriate sampling media. Pump flow rates were established and verified using a BIOS DryCal DC-Lite primary flow meter. Those samples were collected and analyzed along with blanks (identical sampling media through which no air was drawn), when necessary, at laboratories accredited by the American Industrial Hygiene Association (AIHA) through successful participation in the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program. Direct-reading instruments were used to determine airborne O<sub>3</sub>, and VOC levels, the results of which appear in Table 20802001-157 in Appendix A of this report. A discussion of the airborne CO<sub>2</sub> data, along with air temperature and relative humidity results, appears in Section 4.0 of this report. Additional information concerning the specific sampling and analytical methods appears below.



### 3.0 SAMPLING AND ANALYSIS (CONTINUED)

### 3.1 Airborne Total Fungi

Air samples for airborne total (viable and nonviable) fungi determinations were collected using a Zefon brand Bio-Pump<sup>™</sup> equipped with Allergenco-D<sup>™</sup> cassettes. All such samples were collected at various indoor locations and two samples were collected outdoors on the applicable survey date for comparison purposes. The resultant data, which are presented in spores per cubic meter of air (spores/M³), appear in Table 20802001-151.

### 3.2 <u>Airborne Viable Fungi</u>

Air samples for airborne viable fungi determinations were collected on malt extract agar (MEA) using a Gast brand high volume air-sampling pump equipped with an Aerotech 6<sup>™</sup> Single Stage Bioaerosol Sampler. Two outdoor samples were also collected on the applicable survey date for comparison purposes. The media was incubated prior to enumeration of colony-forming units per agar plate and the resultant data, presented in colony forming units per cubic meter of air (CFU/ M³), can be found in Table 20802001-152.

### 3.3 Surface Fungal Growth Potentials

Surface samples were collected for fungal growth assessment using Zefon brand Bio-Tape  $^{\text{TM}}$  surface samplers. Additionally, surface fungi samples were collected from various heating, ventilating, and air conditioning (HVAC) supply air register surfaces using Healthlink  $^{\text{©}}$  Transporters  $^{\text{TM}}$  (Rayon tipped swabs immersed in 0.5 ml modified Stuart's transport medium). These data are presented in Table 20802001-153.

### 3.4 Airborne Fibrous Dust

Area air samples for fibrous dust were collected at stationary locations on 25-millimeter diameter, 0.8-micrometer pore size, mixed cellulose ester filters. The samples were analyzed by phase contrast microscopy (PCM) in accordance with the NIOSH Method 7400. These data are presented in fibers per cubic centimeter (f/cc) of air in Table 20802001-154.

### 3.5 <u>Airborne Total Dust</u>

Area air samples for total dust determination were collected at stationary locations on filter cassettes containing pre-weighed 37-millimeter diameter, polyvinyl chloride filters having a pore size of five micrometers. The samples were analyzed by gravimetric method in accordance with the NIOSH Method 0500. These data are presented in milligrams per cubic meter of air (mg/M³) and appear in Table 20802001-155.

### 3.6 <u>Microbial Volatile Organic Compounds</u>

Area samples for MVOCs were collected on solid sorbent tubes equipped with Sagelock fittings. The samples were analyzed by gas chromatography/ mass spectrometry, modified for MVOCs following AIHA field guide. These data are presented in mg/M³ and appear in Table 20802001-156.



### 3.0 SAMPLING AND ANALYSIS (CONTINUED)

#### 3.7 Airborne Volatile Organic Compounds

Direct-reading air measurements for VOCs were also recorded at various locations on the 18<sup>TH</sup> Floor using a RAE Systems, Inc. Mini-RAE 2000 photoionization detector, which is capable of detecting a wide variety of unsaturated hydrocarbons at airborne concentrations ranging from 0.1 to 10,000 parts per million (ppm). Prior to the survey, this instrument was calibrated using a 100-ppm isobutylene gas standard. These data are presented in parts per million (ppm).

### 3.8 <u>Airborne Ozone</u>

Direct-reading air measurements for  $O_3$  were recorded at various locations using a Dräger colorimetric detector tube apparatus with the appropriate detector tubes. The data are presented in ppm.

### 3.9 <u>Airborne Carbon Dioxide</u>

Direct-reading air measurements for airborne CO<sub>2</sub> concentration was recorded at a stationary location using a Telaire<sup>®</sup> 7001 Carbon Dioxide and Temperature Monitor along with the HOBO<sup>®</sup> data logger. The data are presented in ppm.

#### 3.10 Air Temperature and Relative Humidity

Air temperature and relative humidity data were recorded at a stationary location using a Telaire® 7001 Carbon Dioxide and Temperature Monitor along with the HOBO® data logger.

### 4.0 DISCUSSION

#### 4.1 <u>Airborne Total Fungi</u>

The airborne total fungi data showed common spore types outdoors such as ascospores, basidiospores, *Cladosporium*, *Epicoccum*, and/or colorless spores typical of *Penicillium* and *Aspergillus* species, with basidiospores predominating in both samples. Indoors, the ambient data showed low airborne concentrations of common fungal spores that included one or more of the following: *Alternaria*, ascospores, basidiospores, *Chaetomium*, *Cladosporium*, *Curvularia*, colorless spores typical of *Penicillium* and *Aspergillus* species, *Epicoccum*, other brown, rusts, smuts, and/or *Ulocladium*. Indoors, the distribution of fungal spore types detected in the surveyed areas was generally consistent with those found outdoors, and the overall data within the tested areas were well below the overall data recorded outdoors. These data are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.



### 4.0 DISCUSSION (CONTINUED)

#### 4.2 Airborne Viable Fungi

The viable fungi data recorded outdoors showed overall levels of 389 CFU/M³ and 848 CFU/M³ in two samples collected, with *Cladosporium* predominating in both. Indoors, low but detectable levels of common fungi were found, including *Aspergillus niger*, *Aureobasidium*, and *Cladosporium*. Again, the data recorded were unremarkable and are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.

### 4.3 Surface Fungal Growth Potentials

The surface assessment data involving the samples collected from various cubicle partitions surfaces throughout the 18<sup>TH</sup> Floor indicated no evidence of fungal growth or above-background levels of loose fungal spores on those surfaces. However, the surface assessment data involving samples collected from the HVAC supply air registers on the 18<sup>th</sup> Floor indicated fungal growth involving *Alternaria*, *Aspergillus*, *Cladosporium*, *Penicillium*, and/or zygomycetes on all eight locations sampled. Be advised that visible accumulation of debris, dust, and other particulates was observed on the reverse side of all sampled HVAC supply air registers, and that such conditions are indicative of an environment that may promote fungal growth.

#### 4.4 Airborne Fibrous Dust

The recorded in the surveyed areas indicated that airborne fibrous dusts were either not detected above the laboratory detection limit of 0.004 f/cc or were detected at levels ranging from 0.004 to 0.007 f/cc. Because the samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data, which are expected to represent employee *exposure potentials* to fibers of various types, including man-made and natural mineral fibers, cellulosics (paper or wood composition), gypsum, and other fibrous dusts common in the environment, are well below the current Cal-OSHA 8-hour TWA PEL for asbestos fibers of 0.1 f/cc, the most restrictive exposure limit for fibrous dusts.

#### 4.5 <u>Airborne Total Dust</u>

Common dust that is typically identified in buildings usually contains a wide variety of materials including, but not limited to, gypsum crystals, cellulosic particles, fiberglass fragments, mineral grains from soil, fungi spores, fine glass fibers, textile and wood fibers, iron or steel fragments, dead skin cells, insect parts, animal dander, and pollens. Generally, exposure to low levels of such materials does not produce ill effects in most persons. In fact, these so-called *nuisance dusts* have a long history of little adverse effect to the lungs and are not known to produce significant diseases or toxic effects, such as collagen (scar tissue) formation, when exposure are kept under reasonable control.

The data recorded in the surveyed areas showed that airborne total dust was not detected at or above the respective laboratory analytical detection limits indicated. Because the samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored.



### 4.0 DISCUSSION (CONTINUED)

### 4.5 <u>Airborne Total Dust</u> (Continued)

These data are well below the State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) 8-hour time-weighted average (TWA) permissible exposure limit (PEL) for total dust of 10 mg/M³, as defined in Title 8 of the California Code of Regulations, Section 5155 (T8, CCR § 5155). Note that these data are also well below the American Conference of Governmental Industrial Hygienists 8-hour TWA threshold limit value (TLV-TWA) for particulate (not otherwise classified) of 10 mg/M³; the U.S. Environmental Protection Agency (EPA) National Ambient Air Quality Primary Standard of 0.26 mg/M³ (24-hour standard); and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) theoretical value for non-occupational environments of 1/10 of the TLV.

#### 4.6 Airborne Microbial Volatile Organic Compounds

Microbial Volatile Organic Compounds (MVOCs) are composed of low molecular weight alcohols, aldehydes, amines, ketones, terpenes, aromatic and chlorinated hydrocarbons, and sulfur-based compounds that are known to be byproducts of microbial metabolism. MVOCs have a very low odor threshold, thus, making them easily detectable by smell. They often have strong odors and are responsible for the smells generally associated with fungal growth.

The airborne MVOC data indicated the presence of 1-butanol at levels ranging from 389 ng/m³ to 554 ng/m³, 2-hexanone at level of 95 ng/m³, 2-heptanone at levels ranging from 156 ng/m³ to 217 ng/m³. Microbial growth related VOCs would not be expected to be present indoors without additional MVOCs such as ethanol, 1-octen-3-ol, 2-octen-1-ol, benzyl cyanide, 2-methylisoborneol, geosmin (1-10-dimethyl-*trans*-9-decalol), and/or terpenes also being present. The fact that the above mentioned MVOC were found at very low levels indoors would indicate that such MVOC were most likely not fungal growth related and attributable to personal products such as perfumes and other personal cosmetic products. All such data are well below the applicable Cal-OSHA 8-hour TWA PELs as defined in T8, CCR § 5155.

#### 4.7 <u>Airborne Volatile Organic Compounds</u>

With the use of a direct-reading photoionization detector, VOCs were not detected at or above the instrument detection limit of 0.1 ppm. Because these data were recorded at stationary locations at approximate breathing zone height, the results are expected to represent building occupant exposure potentials for those persons occupying or passing through the areas monitored. These data were well below the surrogate Cal-OSHA PELs that are often used for comparative purposes regarding VOC exposures, such as those for gasoline, hexane, and varnish makers and painters (VM&P) naphtha.

#### 4.8 <u>Airborne Ozone</u>

O<sub>3</sub> was not detected at or above the Dräger instrument detection limit of 0.05 ppm.



### 4.0 DISCUSSION (CONTINUED)

#### 4.9 Airborne Carbon Dioxide

On March 31, 2008, the direct-reading results indicated that  $CO_2$  was detected at levels ranging from 493 to 669 ppm on the  $18^{TH}$  Floor. While these data were somewhat higher than the expected outdoor  $CO_2$  levels, which generally range between 320 and 350 ppm, they are considered normal for occupied indoor environments and they are all well below the Cal-OSHA 8-hour TWA PEL for  $CO_2$  of 5000 ppm (T8, CCR, § 5155). They are also below the level of 1000 ppm, which is essentially equivalent to the recommended upper limit for building occupant comfort and odor control established by ASHRAE (not greater than 700 ppm above the outdoor  $CO_2$  value) as stated in ASHRAE 62-2001.

Based on historic studies performed by HygieneTech, building occupant complaints of "stuffy" air often begin when CO<sub>2</sub> levels exceed 800 ppm. HygieneTech has also found that some sensitive persons may experience discomfort, including eye irritation and headache, when CO<sub>2</sub> levels reach 1,000 ppm. Such symptoms are not believed to be the result of an unhealthful exposure to CO<sub>2</sub>; rather, they are thought to be the result of exposure to other common indoor air pollutants which, if not exhausted and/or diluted, can accumulate over time.

#### 4.10 Air Temperature and Relative Humidity

On March 31, 2008, the air temperatures ranged between 73.8 and 74.5 degrees Fahrenheit (°F). Based on the experience of HygieneTech, the air temperatures perceived as comfortable by most persons in office environments, and recommended by ASHRAE for occupant comfort, range between 68.0 and 74.5°F (winter) and 73.0 and 79.0°F (summer). The air temperatures recorded in the surveyed areas were within the comfort range recommended for the winter months.

Relative humidity data were recorded indoors at levels ranging from 23.4 to 24.6 percent. Such levels were well within the 20 to 60 percent relative humidity level range recommended by ASHRAE for occupant comfort. Note that HygieneTech recommends that the relative humidity in buildings not exceed 50 percent in order to limit the potential for fungal growth.

### 5.0 CONCLUSIONS

- 5.1 The airborne total and viable fungi data recorded in the surveyed areas showed airborne fungi levels that were generally below those recorded outdoors and therefore considered unremarkable. These data are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.
- 5.2 The surface assessment data involving the samples collected from various cubicle partitions surfaces throughout the 18<sup>TH</sup> Floor indicated no evidence of fungal growth or above background levels of loose fungal spores on those surfaces. However, the surface assessment data from the samples collected from the HVAC supply air registers indicated low levels of fungal growth involving *Alternaria, Aspergillus, Cladosporium, Penicillium,* and/or zygomycetes on all eight locations sampled. Be advised that visible accumulation of debris, dust, and other particulates was observed on the reverse side of all sampled HVAC supply air registers, and that such conditions are indicative of an environment that may promote fungal growth.



### 5.0 CONCLUSIONS (CONTINUED)

- 5.3 The airborne total and fibrous dust, VOC, O<sub>3</sub>, and CO<sup>2</sup> recorded during the survey were unremarkable. Collectively, the data were well below applicable Cal-OSHA 8-hour TWA PELs and/or other occupational, non-occupational, ASHRAE, or foreign guidelines. The data are not expected to represent conditions that pose a measurable health risk to the building occupants.
- 5.4 The airborne MVOC data indicated the presence of 1-butanol at levels ranging from 389 ng/m³ to 554 ng/m³, 2-hexanone at a level of 95 ng/m³, 2-heptanone at levels ranging from 156 ng/m³ to 217 ng/m³. Microbial growth related VOCs would not be expected to be present indoors without additional MVOCs such as ethanol, 1-octen-3-ol, 2-octen-1-ol, benzyl cyanide, 2-methylisoborneol, geosmin (1-10-dimethyl-*trans*-9-decalol), and/or terpenes also being present. The fact that the above mentioned MVOC were found at very low levels indoors would indicate that such MVOC were most likely not fungal growth related and attributable to personal products such as perfumes and other personal cosmetic products. All such data are well below the applicable Cal-OSHA 8-hour TWA PELs as defined in T8, CCR § 5155.
- 5.5 On March 31, 2008, air temperatures ranged between 73.8 and 74.5 degrees Fahrenheit (°F) on the survey date. Based on the experience of HygieneTech, the air temperatures perceived as comfortable by most persons in office environments, and recommended by ASHRAE for occupant comfort, range between 68.0 and 74.5°F (winter) and 73.0 and 79.0°F (summer). The air temperatures recorded in the surveyed areas were within the comfort range recommended for the winter months. Relative humidity data were recorded indoors at levels ranging from 23.4 to 24.6 percent, levels that were well within the 20 to 60 percent relative humidity level range recommended by ASHRAE for occupant comfort. Note that HygieneTech recommends that the relative humidity in buildings not exceed 50 percent in order to limit the potential for fungal growth.
- 5.6 Be advised that the data provided in this report only represent fungal growth and exposure potentials that existed at the time the survey was performed and at the precise sample locations only, the latter of which were selected based on the available background information provided. Note that fungal growth and exposure potentials may change due to changes in environmental conditions (such as those caused by water intrusion), use of mechanical systems, or other factors. Also be advised that additional fungal growth may exist at one or more locations in the structure that were not specifically assessed during the survey.

### 6.0 RECOMMENDATIONS

All such recommendations are based strictly on the assessment information and analytical data that were available to HygieneTech at the time this report was prepared. Be advised that, in order to establish data that accurately reflects all the fungal growth sites on the 18<sup>th</sup> Floor, additional assessment evaluations may be required as more information is known regarding the history of water intrusion episodes in discrete building areas.

6.1 If not yet established, an accurate record of all air monitoring results should be maintained in accordance with Cal-OSHA regulation found in T8, CCR § 3204. All affected employees should be informed that the *exposure potential* data in this report exist and that those persons, or their representatives, have a right to access relevant exposure data and medical records.



### 6.0 RECOMMENDATIONS (CONTINUED)

- Routine cleaning of the HVAC supply air registers on the 18<sup>TH</sup> Floor should be performed to preclude the build-up of dust and debris, which may potentially contribute to fungal growth on those surfaces.
- 6.3 Also be advised that the exposure data recorded during the survey may not be sufficiently broad to adequately assess the suitability of the indoor air quality for all individuals, particularly those who are extremely sensitive to certain chemical and/or biological substances or for those individuals with immune system deficiencies. Although not expected, if persons occupying or passing through the 18<sup>TH</sup> Floor do experience non-specific ill effects of unknown etiology, then those affected should be referred to a medical professional in order to determine or specify the possible cause(s) of such reactions. If more information becomes available, further investigation and air monitoring may be warranted.

#### HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

/ /
Kenny K. Hsi, CIH
Technical Director

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September 8, 2008

Brian P. Daly, CIH, PE

President

Date:

Date:

September 8, 2008

CLIENT: California State Board of Equalization 450 N Street Sacramento, California 94279 **APPENDIX A** 

TABLE 20802001-151
AIRBORNE TOTAL FUNGI RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 AND 21, 2008

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Resul	ts reported in spores	s per cubic meter o	of air (spores/M³)	
SAMPLE NUMBER	20802001- TM108CCJL	20802001- TM109CCJL	20802001- TM110CCJL	20802001- TM111CCJL
SAMPLING LOCATION/ACTIVITIES	Room 1820; Column L22 area; Cubicle 090; ceiling; within ceiling plenum/Sampling activities only	Room 1820; approximately six feet north of Column N20; within ceiling plenum/Sampling activities only	Room 1820; Column N22 area; Cubicle 152; within ceiling plenum/Sampling activities only	Room 1820; Column N18 area; Cubicle 010; within ceiling plenum/Sampling activities only
DATE	2-15-08	2-15-08	2-15-08	2-15-08
START/STOP	13:09:00/13:14:00	13:18:00/13:23:00	13:28:00/13:33:00	13:39:00/13:44:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria		40	13	
Arthrinium				
Ascospores				
Aureobasidium				
Basidiospores	213	160	107	53
Bipolaris/Drechslera group				
Botrytis				
Chaetomium	13			
Cladosporium	213	53	160	53
Curvularia				
Epicoccum			13	
Nigrospora				
Oidium				
Other brown			13	
Penicillium/Aspergillus types				
Pithomyces				
Rusts	27			
Smuts (Periconia, Myxomycetes)	27		13	
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	<13	27	<13	<13
Background particulates*	3+	3+	3+	2+
TOTAL**	493	253	319	106

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Sacramento, California 94279

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TABLE 20802001-151
AIRBORNE TOTAL FUNGI RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 AND 21, 2008

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SAMPLE NUMBER	20802001-	20802001-	20802001-	20802001-
	TM112CCJL	TM113CCJL	TM114CCJL	TM115CCJL
SAMPLING	Room 1820; Column	Room 1820; Column	Room 1820; Column	Room 1820; Column
LOCATION/ACTIVITIES	K18 area; Cubicle	K18 area; Cubicle	K20 area; Cubicle	K21 area; Cubicle
	005; within ceiling	064; within ceiling	069; within ceiling	043; within ceiling
	plenum/Sampling	plenum/Sampling	plenum/Sampling	plenum/Sampling
DATE	activities only 2-15-08	activities only 2-15-08	activities only 2-15-08	activities only 2-15-08
START/STOP	13:39:00/13:54:00	13:58:00/14:03:00	14:08:00/14:13:00	14:09:00/14:14:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria		40	13	
Arthrinium				
Ascospores				
Aureobasidium				
Basidiospores	53	53		160
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	107	480	320	107
Curvularia			13	
Epicoccum				
Myrothecium				
Nigrospora				
Oidium				
Other brown		13		
Penicillium/Aspergillus types				40
Pithomyces				
Rusts			13	
Smuts (Periconia, Myxomycetes)	27	13		13
Stachybotrys				
Torula				
Ulocladium		13		
Hyphal fragments	<13	40	<13	27
Background particulates*	3+	3+	3+	2+
TOTAL**	187	612	359	320

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TABLE 20802001-151
AIRBORNE TOTAL FUNGI RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 AND 21, 2008

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SAMPLE NUMBER	20802001-TM19OUTME	20802001-TM20ME	20802001-TM21ME	20802001-TM22ME
SAMPLING LOCATION/ACTIVITIES	Outdoors; about 50 feet east of building; approximately five feet above ground/Normal outdoor activities	Room 1820; Column L22 area; Cubicle 087; about center; approximately five feet above floor/Normal office activities	Room 1820; Column M22 area; Cubicle 096; about center; approximately five feet above floor/Normal office activities	Room 1820; Column N22 area; printing station; about center; approximately five feet above floor/Normal office activities
DATE	2-21-08	2-21-08	2-21-08	2-21-08
START/STOP	10:30:00/10:35:00	10:48:00/10:53:00	10:54:00/10:59:00	11:00:00/11:05:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores	853		53	
Aureobasidium				
Basidiospores	1,600	53		53
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	960	107		53
Curvularia				
Epicoccum	27			
Nigrospora				
Oidium				
Penicillium/Aspergillus types	160			53
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				27
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	<13	13	<13	<13
Background particulates*	1+	1+	1+	1+
TOTAL**	3,600	160	53	186

CLIENT: California State Board of Equalization 450 N Street

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**APPENDIX A** 

TABLE 20802001-151
AIRBORNE TOTAL FUNGI RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 AND 21, 2008

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SAMPLE NUMBER	20802001-TM23ME	20802001-TM24ME	20802001-TM25ME	20802001-TM26ME
SAMPLING LOCATION/ACTIVITIES	Room 1820; Column N21 area; Cubicle 117; about center; approximately five feet above floor/Normal office activities	Room 1820; Column N20 area; about ten feet north of Column N20 area; approximately five feet above floor/Normal office activities	Room 1820; Column N19 area; Cubicle 136; approximately five feet above floor/normal office activities	Room 1820; Column N18 area; Cubicle 128; approximately five feet above floor/Normal office activities
DATE	2-21-08	2-21-08	2-21-08	2-21-08
START/STOP	11:08:00/11:13:00	11:16:00/11:21:00	11:22:00/11:27:00	11:30:00/11:35:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				13
Arthrinium				
Ascospores				
Aureobasidium				
Basidiospores	53	53	53	
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium		53		53
Curvularia				
Epicoccum				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				53
Pithomyces				
Rusts		13		
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Torula				
Ulocladium				
Hyphal fragments	13	13	13	<13
Background particulates*	1+	1+	1+	1+
TOTAL**	53	119	53	119

CLIENT: California State Board of Equalization 450 N Street

Sacramento, California 94279

**APPENDIX A** 

TABLE 20802001-151
AIRBORNE TOTAL FUNGI RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 AND 21, 2008

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SAMPLE NUMBER	20802001-TM27ME	20802001-TM28ME	20802001-TM29ME	20802001-TM30ME
SAMPLING LOCATION/ACTIVITIES	Room 1820; Column M18 area; Cubicle 013; approximately five feet above floor/Normal office activities	Room 1820; Column L18; Cubicle 025; approximately five feet above floor/Normal office activities	Room 1820; Column K18 area; Cubicle 061; approximately five feet above floor/Normal office activities	Room 1820; Column K20 area; about ten feet south of Column K20; approximately five feet above floor/Normal office activities
DATE	2-21-08	2-21-08	2-21-08	2-21-08
START/STOP	11:44:00/11:49:00	11:51:00/11:56:00	11:58:00/12:03:00	12:04:00/12:09:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores				
Aureobasidium				
Basidiospores	107			53
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53	53	53	53
Curvularia				
Epicoccum				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types	107			
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Torula				
Ulocladium				
Hyphal fragments	<13	<13	<13	<13
Background particulates*	1+	1+	1+	1+
TOTAL**	267	53	53	106

CLIENT: California State Board of Equalization 450 N Street

Sacramento, California 94279

**APPENDIX A** 

TABLE 20802001-151
AIRBORNE TOTAL FUNGI RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 AND 21, 2008

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SAMPLE NUMBER	20802001-TM31ME	20802001-TM32ME	20802001-TM33ME	20802001-TM34ME
SAMPLING LOCATION/ACTIVITIES	Room 1820; Column K19 area; Cubicle 095; approximately five feet above floor/Normal office activities	Room 1820; Column K21 area; Cubicle 041; approximately five feet above floor/Normal office activities	Room 1820; Column K22 area; Cubicle 044; approximately five feet above floor/Normal office activities	Room 1820; Column K22 area; about five feet south of Column K22; approximately five feet above floor/Normal office activities
DATE	2-21-08	2-21-08	2-21-08	2-21-08
START/STOP	12:10:00/12:15:00	12:16:00/12:21:00	12:22:00/12:27:00	12:30:00/12:35:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores				
Aureobasidium				
Basidiospores			53	53
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53	107		53
Curvularia				
Epicoccum				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types	53			
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Torula				
Ulocladium				
Hyphal fragments	<13	13	27	13
Background particulates*	1+	1+	1+	1+
TOTAL**	106	107	53	106

CLIENT: California State Board of Equalization 450 N Street

Sacramento, California 94279

**APPENDIX A** 

TABLE 20802001-151
AIRBORNE TOTAL FUNGI RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 AND 21, 2008

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SAMPLE NUMBER	20802001-TM35ME	20802001-TM36OUTME		
SAMPLING LOCATION/ACTIVITIES	Room 1820; Column N19 area; Cubicle 124; approximately five feet above floor/Normal office activities	Outdoors; about 50 feet east of building; approximately five feet above ground/Normal outdoor activities	This column intentionally left blank	This column intentionally left blank
DATE	2-21-08	2-21-08		
START/STOP	12:40:00/12:45:00	16:30:00/16:35:00		
SAMPLE TIME	5 minutes	5 minutes		
Alternaria	13			
Arthrinium				
Ascospores	53	480		
Aureobasidium				
Basidiospores	53	853		
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium		267		
Curvularia				
Epicoccum				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types		160		
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Torula				
Ulocladium				
Hyphal fragments	<13	80		
Background particulates*	1+	1+		
TOTAL**	119	1,760		



CLIENT: California State Board of Equalization 450 N Street Sacramento, California TABLE 20802001-152
AIRBORNE VIABLE FUNGI RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 21, 2008

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Resul	ts reported in colony t			M <sup>3</sup> )
SAMPLE NUMBER	20802001-VM01OUTME	20802001-VM02ME	20802001-VM03ME	20802001-VM04ME
SAMPLING LOCATION/ACTIVITIES	Outdoors; about 25 feet east of building; approximately five feet above ground/Normal outdoor activities	Room 1820; Column L22 area; Cubicle 87; about center; approximately five feet above floor/Normal office activities	Room 1820; Column N22 area; printing station; about center; approximately five feet above floor/Normal office activities	Room 1820; Column N20 area; about six feet north of N20 Column; approximately five feet above floor/Normal office activities
START/STOP	10:37:00/10:39:00	10:50:00/10:52:00	11:00/11:02:00	11:16:00/11:18:00
SAMPLE TIME	2 minutes	2 minutes	2 minutes	2 minutes
Acremonium				
Alternaria				
Aspergillus flavus				
Aspergillus niger				
Aspergillus other				
Aspergillus versicolor				
Aureobasidium	18			
Beauveria				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	212			
Curvularia				
Epicoccum				
Nigrospora				
Memnoniella				
Myrothecium				
Non-sporulating fungi	53			
Others				
Paecilomyces				
Penicillium				
Phoma/coelomycetes				
Sporobolomyces				
Stachybotrys				
Torula herbarum				
Trichoderma				
Ulocladium				
Yeasts	106			
TOTAL	389	< 18	< 18	< 18
	1	l	l	l



CLIENT: California State Board of Equalization 450 N Street Sacramento, California TABLE 20802001-152
AIRBORNE VIABLE FUNGI RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 21, 2008

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Results reported in colony forming units per cubic meter of air (CFU/M³)

	ts reported in colony t		,	,
SAMPLE NUMBER	20802001-VM05ME	20802001-VM06ME	20802001-VM07ME	20802001-VM08ME
SAMPLING LOCATION/ACTIVITIES	Room 1820; Column N18 area; Cubicle 128; approximately five feet above floor/Normal office activities	Room 1820; Column M18 area; Cubicle 013; approximately five feet above floor/Normal office activities	Room 1820; Column K18 area; Cubicle 61; approximately five feet above floor/Normal office activities	Room 1820; about 10 feet south of Column K20; approximately five feet above floor/Normal office activities only
START/STOP	11:30:11:32:00	11:48:00/11:50:00	11:56:00/11:58:00	12:04:00/12:06:00
SAMPLE TIME	2 minutes	2 minutes	2 minutes	2 minutes
Acremonium				
Alternaria				
Aspergillus flavus				
Aspergillus niger				18
Aspergillus other				
Aspergillus versicolor				
Aureobasidium			18	
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium				18
Curvularia				
Epicoccum				
Fusarium				
Memnoniella				
Myrothecium				
Non-sporulating fungi				
Others				
Paecilomyces				
Penicillium				
Phoma/coelomycetes				
Sporobolomyces				
Stachybotrys				
Torula herbarum				
Trichoderma				
Ulocladium				
Yeasts	18	18		
TOTAL	18	18	18	36



**CLIENT: California State Board of Equalization** 450 N Street Sacramento, California

TABLE 20802001-152 **AIRBORNE VIABLE FUNGI RESULTS** 18<sup>TH</sup> FLOOR **SACRAMENTO, CALIFORNIA FEBRUARY 21, 2008** 

Results reported in colony forming units per cubic meter of air (CFU/M³)						
SAMPLE NUMBER	20802001-VM9ME	20802001-VM10OUTME				
SAMPLING LOCATION/ACTIVITIES	Room 1820; about five feet south of Column K22; approximately five above floor/Normal office activities	Outdoors; about 20 feet east of building; approximately five feet above ground/Normal outdoor activities	This column intentionally left blank	This column intentionally left blank		
START/STOP	12:37:0012:39:00	17:55:00/17:57:00				
SAMPLE TIME	2 minutes	2 minutes				
Acremonium						
Alternaria						
Aspergillus flavus						
Aspergillus niger						
Aspergillus other						
Aspergillus versicolor						
Aureobasidium						
Beauveria						
Bipolaris/Drechslera group						
Botrytis						
Chaetomium						
Chlamydospore- former						
Cladosporium	18	777				
Curvularia						
Epicoccum		18				
Fusarium						
Myrothecium						
Non-sporulating fungi		53				
Paecilomyces						
Penicillium						
Phoma/coelomycetes						
Sporobolomyces						
Stachybotrys						
Torula herbarum						
Trichoderma						
Ulocladium						
Yeasts						
TOTAL	18	848				



CLIENT: California State Board of Equalization 450 N Street

Sacramento, California 94279

TABLE 20802001-153
SURFACE FUNGAL GROWTH POTENTIALS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 2008

						Page 1
SAMPLE NUMBER 20802001-	SAMPLING LOCATION	AMORPHOUS DEBRIS	MISCELLANEOUS FUNGI/POLLEN*	FUNGI SEEN WITH UNDERLYING MYCELIAL AND/OR SPORULATING STRUCTURES**	OTHER COMMENTS None	GENERAL IMPRESSION
TL79ME	Room 1820; Column K22 area; Cubicle 086; eastern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL80ME	Room 1820; Column K22 area; Cubicle 049.01; western cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL81ME	Room 1820; Column K21 area; Cubicle 041; northern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL82ME	Room 1820; Column K 20 area; Cubicle 038; northern cubicle partition; about center; from horizontal surface	Moderate	Very few	None	None	Background
20802001- TL83ME	Room 1820; Column K19 area; Cubicle 035; northern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL84ME	Room 1820; Column K21 area; Cubicle 051; southern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL85ME	Room 1820; Cubicle K20 area; Cubicle 069; northern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL86ME	Room 1820; Column K18 area; Cubicle 064; northern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL87ME	Room 1820; Column K18 area; Cubicle 023.1; eastern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background

<sup>\*</sup>Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating (indicative of normal trapping).

<sup>\*\*</sup>Quantities of fungi are graded (from least to greatest) as <1+ to 4+.



CLIENT: California State Board of Equalization 450 N Street

Sacramento, California 94279

TABLE 20802001-153
SURFACE FUNGAL GROWTH POTENTIALS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 2008

						Page 2
SAMPLE	SAMPLING LOCATION	AMORPHOUS	MISCELLANEOUS	FUNGI SEEN WITH UNDERLYING MYCELIAL AND/OR SPORULATING	OTHER	GENERAL
NUMBER		DEBRIS	FUNGI/POLLEN*	STRUCTURES**	COMMENTS	IMPRESSION
20802001- TL88ME	Room 1820; Column L18 area; Cubicle 015; southern cubicle partition; about center; from horizontal surface	Moderate	Very few	None	None	Background
20802001- TL89ME	Room 1820; Column N18 area; Cubicle 010; eastern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL90ME	Room 1820; Column N18 area; Cubicle 140; southern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL91ME	Room 1820; Column N19 area; Cubicle 136; northern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL92ME	Room 1820; Column N20 area; Cubicle 146; southern cubicle partition; from horizontal surface	Light	Very few	None	None	Background
20802001- TL93ME	Room 1820; Column N21 area; Cubicle 149; southern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL94ME	Room 1820; Column N19 area; Cubicle 124; southern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL95ME	Room 1820; Column N20 area; Cubicle 121; southern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL96ME	Room 1820; Column N21 area; Cubicle 106; southern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background

<sup>\*</sup>Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating (indicative of normal trapping).

<sup>\*\*</sup>Quantities of fungi are graded (from least to greatest) as <1+ to 4+.



**CLIENT: California State Board of Equalization** 

450 N Street Sacramento, California 94279 TABLE 20802001-153
SURFACE FUNGAL GROWTH POTENTIALS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 2008

		1				Page 3
SAMPLE NUMBER	SAMPLING LOCATION	AMORPHOUS DEBRIS	MISCELLANEOUS FUNGI/POLLEN*	FUNGI SEEN WITH UNDERLYING MYCELIAL AND/OR SPORULATING STRUCTURES**	OTHER COMMENTS	GENERAL IMPRESSION
20802001- TL97ME	Room 1820; Column N22 area; Cubicle 103; southern cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- TL98ME	Room 1820; Column M22 area; Cubicle 096; western cubicle partition; about center; from horizontal surface	Light	Very few	None	None	Background
20802001- S09JL	Room 1820; Column L22 area; Cubicle 090; ceiling; from reverse side of HVAC supply air register	Moderate	Very few	<1+ zygomycetes (spores, sporangiophores)  <1+ Penicillium species (spores, hyphae, conidiophores)  <1+ Cladosporium species (spores, hyphae)  <1+ Alternaria species (spores, hyphae)	None	Minimal fungal growth
20802001- S10JL	Room 1820; Column N20 area; about six feet north of Column N20; ceiling; from reverse side of HVAC supply air register	Moderate	Very few	<1+ Penicillium species (spores, hyphae, conidiophores)  <1+ Cladosporium species (spores, hyphae)  <1+ Aspergillus species (spores, hyphae, conidiophores)  <1+ Alternaria species (spores, hyphae)	None	Minimal fungal growth

<sup>\*</sup>Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating (indicative of normal trapping).

<sup>\*\*</sup>Quantities of fungi are graded (from least to greatest) as <1+ to 4+.



CLIENT: California State Board of Equalization 450 N Street

Sacramento, California 94279

TABLE 20802001-153
SURFACE FUNGAL GROWTH POTENTIALS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 2008

-						Page 4
SAMPLE	SAMPLING	AMORPHOUS	MISCELLANEOUS	FUNGI SEEN WITH UNDERLYING MYCELIAL AND/OR SPORULATING	OTHER	GENERAL
NUMBER	LOCATION	DEBRIS	FUNGI/POLLEN*	STRUCTURES**	COMMENTS	IMPRESSION
20802001- S11JL	Room 1820; Column N22 area; Cubicle 152; ceiling; from reverse of HVAC supply air register	Moderate	Very few	<1+ Cladosporium species (spores, hyphae)	None	Minimal fungal growth
20802001- S12JL	Room 1820; Column N18 area; Cubicle 010; ceiling; from reverse side of HVAC supply air register	Moderate	Very few	<1+ Cladosporium species (spores, hyphae)	None	Minimal fungal growth
20802001- S13JL	Room 1820; Column K18 area; Cubicle 005; ceiling; from reverse side of HVAC supply air register	Moderate	Very few	<1+ zygomycetes (spores, sporangiophores) <1+ Cladosporium species (spores, hyphae)	None	Minimal fungal growth
20802001- S14JL	Room 1820; Column K18 area; Cubicle 064; ceiling; from reverse side of HVAC supply air register	Moderate	Very few	1+ Alternaria species (spores, hyphae, conidiophores)  <1+ zygomycetes (spores, sporangiophores)  <1+ Cladosporium species (spores, hyphae)	None	Fungal growth
20802001- S15JL	Room 1820; Column K20; Cubicle 069; ceiling; from reverse side of HVAC supply air register	Moderate	Very few	1+ zygomycetes     (spores,     sporangiophores)  <1+ Cladosporium     species (spores,           hyphae)  <1+ Aspergillus     species (spores,           hyphae,     conidiophores)  <1+ Alternaria     species (spores,           hyphae)	None	Fungal growth

<sup>\*</sup>Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating (indicative of normal trapping).

<sup>\*\*</sup>Quantities of fungi are graded (from least to greatest) as <1+ to 4+.



**CLIENT: California State Board of Equalization** 

450 N Street Sacramento, California 94279 TABLE 20802001-153
SURFACE FUNGAL GROWTH POTENTIALS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15 2008

SAMPLE NUMBER 20802001- S16JL	SAMPLING LOCATION  Room 1820; Column K21 area; Cubicle 043; ceiling; from reverse side of HVAC supply air register	AMORPHOUS DEBRIS Moderate	MISCELLANEOUS FUNGI/POLLEN* Very few	FUNGI SEEN WITH UNDERLYING MYCELIAL AND/OR SPORULATING STRUCTURES*** <1+ Cladosporium species (spores, hyphae)	OTHER COMMENTS None	GENERAL IMPRESSION Minimal fungal growth
--	---	---------------------------------	--	--	---------------------------	---

<sup>\*</sup>Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating (indicative of normal trapping).

<sup>\*\*</sup>Quantities of fungi are graded (from least to greatest) as <1+ to 4+.

CLIENT: California State Board of Equalization 450 N Street

Sacramento, California 94279

### **APPENDIX A**



TABLE 20802001-154
AIRBORNE FIBERS RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 25, 2008

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (f/cc)	PEL (f/cc)
Area Sample	Room 1820; Column K21 area; Cubicle 71; about center; approximately six feet above floor/Normal office activities	N/A	20802001- F22ME	9:03/ 17:23	500 minutes	Fibers	0.004	0.1 f/cc
Area Sample	Room 1820; Column K20 area; Cubicle 38; about center; approximately six feet above floor/Normal office activities	N/A	20802001- F23ME	9:08/ 17:26	498 minutes	Fibers	0.006	0.1 f/cc
Area Sample	Room 1820; Column K18 area; about five feet east of printing station; about center; approximately six feet above floor/Normal office activities	N/A	20802001- F24ME	9:15/ 17:29	494 minutes	Fibers	0.007	0.1 f/cc
Area Sample	Room 1820; Column L18 area Cubicle 22; about center; approximately six feet above floor/Normal office activities	N/A	20802001- F25ME	9:20/ 17:30	490 minutes	Fibers	0.005	0.1 f/cc
Area Sample	Room 1820; Column N18 area; Cubicle 001; about center; approximately six feet above floor/Normal office activities	N/A	20802001- F26ME	9:28/ 17:34	486 minutes	Fibers	<0.004	0.1 f/cc
Area Sample	Room 1820; Column N19 area; Cubicle 137; about center; approximately six feet above floor/Normal office activities	N/A	20802001- F27ME	9:35/ 17:38	483 minutes	Fibers	0.005	0.1 f/cc
Area Sample	Room 1820; Column N21 area; Cubicle 109; about center; approximately six feet above floor/Normal office activities	N/A	20802001- F28ME	9:40/ 17:42	482 minutes	Fibers	<0.004	0.1 f/cc
Area Sample	Room 1820; Column N22 area; Cubicle 98; about center; approximately six feet above floor/Normal office activities	N/A	20802001- F29ME	9:46/ 17:47	481 minutes	Fibers	<0.004	0.1 f/cc
Area Sample	Room 1820; Column M22 area; Cubicle 91; about center; approximately six feet above floor/Normal office activities	N/A	20802001- F30ME	9:49/ 17:50	481 minutes	Fibers	<0.004	0.1 f/cc
BLANK	N/A	N/A	20802001- F102 BLKME	N/A	N/A	Fibers	All blank data corrected	N/A

#### **LEGEND**

PPE: Personal protective equipment

N/A: Not applicable

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

<: Less than

f/cc: Fibers per cubic centimeter of air

CLIENT: California State Board of Equalization 450 N Street Sacramento, California 94279

### **APPENDIX A**



TABLE 20802001-155
AIRBORNE TOTAL DUST RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15, 2008

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (mg/M³)	PEL (mg/M³)
Area Sample	Room 1820; Column M18 area; Cubicle 15; about center;	N/A	20802001-	10:44/	327	Total dust	< 0.15	10
	about six feet above floor/Normal office activities		TD11JL	16:11	minutes			
Area Sample	Room 1820; Column N18 area; Cubicle 10; about center;	N/A	20802001-	10:46/	322	Total dust	< 0.16	10
	approximately six feet above floor/Normal office activities		TD12JL	16:08	minutes			
Area Sample	Room 1820; Column N19 area; Cubicle 123; about center;	N/A	20802001-	10:49/	318	Total dust	< 0.16	10
	approximately six feet above floor/Normal office activities		TD13JL	16:07	minutes			
Area Sample	Room 1820; Column N21 area; Cubicle 117; about center;	N/A	20802001-	10:52/	314	Total dust	< 0.16	10
	approximately six feet above floor/Normal office activities		TD14JL	16:06	minutes			
Area Sample	Room 1820; Column N22 area; Cubicle 103; about center;	N/A	20802001-	10:55/	309	Total dust	< 0.16	10
·	approximately six feet above floor/Normal office activities		TD15JL	16:04	minutes			
Area Sample	Room 1820; Column M22 area; Cubicle 90; about center;	N/A	20802001-	10:58/	294	Total dust	< 0.17	10
·	approximately six feet above floor/Normal office activities		TD16JL	15:52	minutes			
Area Sample	Room 1820; Column K22 area; cubicle east of Column K22;	N/A	20802001-	11:02/	314	Total dust	< 0.16	10
·	about center; approximately six feet above floor/Normal office		TD17JL	16:16	minutes			
	activities							
Area Sample	Room 1820; Column K21 area; Cubicle 72; about center;	N/A	20802001-	11:05/	309	Total dust	< 0.16	10
·	approximately six feet above floor/Normal office activities		TD18JL	16:14	minutes			
Area Sample	Room 1820; Column K19 area; Cubicle 36; about center;	N/A	20802001-	11:09/	299	Total dust	< 0.17	10
·	approximately six above floor/Normal office activities		TD19JL	16:08	minutes			
Area Sample	Room 1820; Column K18 area; Cubicle 231; about center;	N/A	20802001-	11:19/	293	Total dust	< 0.17	10
'	approximately six feet above floor/Normal office activities		TD20JL	16:12	minutes			
Blank	N/A	N/A	20802001-	N/A	N/A	Total dust	All data blank	N/A
			TD102				corrected	
			BLKJL					

#### **LEGEND**

PPE: Personal protective equipment

N/A: Not applicable

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

<: Less than

mg/M<sup>3</sup>: Milligrams per cubic meter

CLIENT: California State Board of Equalization 450 N Street Sacramento, California 94279

### **APPENDIX A**

TABLE 20802001-156
MICROBIAL VOLATILE ORGANIC COMPOUNDS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
MARCH 24, 2008

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NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (mg/m³)	PEL (mg/m³)
Area Sample	Room 1820; Column M22 area; about center;	N/A	20803001-	15:10/	101	3-Methylfuran	nd	N/A
7 troa Campio	approximately six feet above floor/Normal office	14//	M09ME	16:51	minutes	2-Methyl-1-propanol	nd	N/A
	activities		WIGOINE	10.01	minacoo	1-Butanol	389 x10 <sup>-6</sup>	300
						3-Methyl-2-butanol	nd	N/A
						2-Pentanol	nd	N/A
						3-Methyl-2-butanol	nd	N/A
						Methyl disulfide	nd	N/A
						Ethyl isobutyrate	nd	N/A
						2-Hexanone	95	410
						2-Heptanone	195 x10 <sup>-6</sup>	468
						5-Methyl-3-heptanone	nd	130
						1-Octen-3-ol	nd	N/A
						3-Octanone	nd	N/A
						3-Octanol	nd	N/A
						2-Pentylfuran	nd	N/A
						2-Octen-1-ol	nd	N/A
						2-Methoxy-3-1(methylethyl) pyrazine	nd	N/A
						2-Nonanone	nd	N/A
						Fenchone	nd	N/A
						2-Methyl-isoborneol	nd	N/A
						a-Terpineol	nd	N/A
						Bomeol	nd	N/A
						Geosmin	nd	N/A
						Thujopsene	nd	N/A

#### **LEGEND**

PPE: Personal protective equipment

N/A: Not applicable

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

<: Less than

mg/M<sup>3</sup>: Milligrams per cubic meter

CLIENT: California State Board of Equalization 450 N Street Sacramento, California 94279

### **APPENDIX A**

TABLE 20802001-156
MICROBIAL VOLATILE ORGANIC COMPOUNDS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
MARCH 24, 2008

Page 2

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (mg/m³)	PEL (mg/m³)
Area Sample	Room 1820; Column N20 area; about center;	N/A	20803001-	15:13/	100	3-Methylfuran	nd	N/A
	approximately six feet above floor/Normal office		M10ME	16:53	minutes	2-Methyl-1-propanol	nd	N/A
	activities		-			1-Butanol	418 x10 <sup>-6</sup>	300
						3-Methyl-2-butanol	nd	N/A
						2-Pentanol	nd	N/A
						3-Methyl-2-butanol	nd	N/A
						Methyl disulfide	nd	N/A
						Ethyl isobutyrate	nd	N/A
						2-Hexanone	nd	410
						2-Heptanone	162 x10 <sup>-6</sup>	468
						5-Methyl-3-heptanone	nd	130
						1-Octen-3-ol	nd	N/A
						3-Octanone	nd	N/A
						3-Octanol	nd	N/A
						2-Pentylfuran	nd	N/A
						2-Octen-1-ol	nd	N/A
						2-Methoxy-3-1(methylethyl) pyrazine	nd	N/A
						2-Nonanone	nd	N/A
						Fenchone	nd	N/A
						2-Methyl-isoborneol	nd	N/A
						a-Terpineol	nd	N/A
						Borneol	nd	N/A
						Geosmin	nd	N/A
						Thujopsene	nd	N/A

#### **LEGEND**

PPE: Personal protective equipment

N/A: Not applicable

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

<: Less than

mg/M<sup>3</sup>: Milligrams per cubic meter

CLIENT: California State Board of Equalization 450 N Street Sacramento, California 94279

### **APPENDIX A**

TABLE 20802001-156
MICROBIAL VOLATILE ORGANIC COMPOUNDS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
MARCH 24, 2008

Page 3

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (mg/m³)	PEL (mg/m³)
Area Sample	Room 1820; Column M18 area; about center;	N/A	20802001-	15:15/	100	3-Methylfuran	nd	N/A
Area Gampie	approximately six feet above floor/Normal office	14/74	M11ME	16:55	minutes	2-Methyl-1-propanol	nd	N/A
	activities		W1111WL	10.00	minutos	1-Butanol	554 x10 <sup>-6</sup>	300
	donvidos					3-Methyl-2-butanol	nd	N/A
						2-Pentanol	nd	N/A
						3-Methyl-2-butanol	nd	N/A
						Methyl disulfide	nd	N/A
						Ethyl isobutyrate	nd	N/A
						2-Hexanone	nd	410
						2-Heptanone	156 x10 <sup>-6</sup>	468
						5-Methyl-3-heptanone	nd	130
						1-Octen-3-ol	nd	N/A
						3-Octanone	nd	N/A
						3-Octanol	nd	N/A
						2-Pentylfuran	nd	N/A
						2-Octen-1-ol	nd	N/A
						2-Methoxy-3-1(methylethyl) pyrazine	nd	N/A
						2-Nonanone	nd	N/A
						Fenchone	nd	N/A
						2-Methyl-isoborneol	nd	N/A
						a-Terpineol	nd	N/A
						Borneol	nd	N/A
						Geosmin	nd	N/A
						Thujopsene	nd	N/A

#### **LEGEND**

PPE: Personal protective equipment

N/A: Not applicable

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

<: Less than

mg/M<sup>3</sup>: Milligrams per cubic meter

CLIENT: California State Board of Equalization 450 N Street Sacramento, California 94279

### **APPENDIX A**

TABLE 20802001-156
MICROBIAL VOLATILE ORGANIC COMPOUNDS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
MARCH 24, 2008

Page 4

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (mg/m³)	PEL (mg/m³)
Area Sample	Room 1820; Column K20 area; about center;	N/A	20803001-	15:17/	99	3-Methylfuran	nd	N/A
	approximately six feet above floor/Normal office		M12ME	16:56	minutes	2-Methyl-1-propanol	nd	N/A
	activities					1-Butanol	549 x10 <sup>-6</sup>	300
						3-Methyl-2-butanol	nd	N/A
						2-Pentanol	nd	N/A
						3-Methyl-2-butanol	nd	N/A
						Methyl disulfide	nd	N/A
						Ethyl isobutyrate	nd	N/A
						2-Hexanone	nd	410
						2-Heptanone	217 x10 <sup>-6</sup>	468
						5-Methyl-3-heptanone	nd	130
						1-Octen-3-ol	nd	N/A
						3-Octanone	nd	N/A
						3-Octanol	nd	N/A
						2-Pentylfuran	nd	N/A
						2-Octen-1-ol	nd	N/A
						2-Methoxy-3-1(methylethyl) pyrazine	nd	N/A
						2-Nonanone	nd	N/A
						Fenchone	nd	N/A
						2-Methyl-isoborneol	nd	N/A
						a-Terpineol	nd	N/A
						Borneol	nd	N/A
						Geosmin	nd	N/A
						Thujopsene	nd	N/A

#### **LEGEND**

PPE: Personal protective equipment

N/A: Not applicable

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

<: Less than

mg/M<sup>3</sup>: Milligrams per cubic meter

CLIENT: California State Board of Equalization 450 N Street Sacramento, California 94279



TABLE 20802001-147
DIRECT-READING RESULTS
18<sup>TH</sup> FLOOR
SACRAMENTO, CALIFORNIA
FEBRUARY 15, 2008

LOCATION/SITE ACTIVITIES	SAMPLE TIME	CONTAMINANT	RESULTS (ppm)	COMMENTS
Room 1820; Column K18 area; about four feet south of Cubicle 076; approximately five feet	11:23/11:26	Volatile Organic Compounds	ND < 0.1	N/A
above floor/Normal office activities		Ozone	ND < 0.05	
Room 1820; Column L18 area; about four feet south of Cubicle 023.1; approximately five feet	11:32/11:35	Volatile Organic Compounds	ND <0.1	N/A
above floor/Normal office activities		Ozone	ND < 0.05	
Room 1820 Column N19 area; about twenty feet east of Cubicle 134; approximately five feet above	11:40/11:43	Volatile Organic Compounds	ND < 0.1	N/A
floor/Normal office activities		Ozone	ND < 0.05	
Room 1820; Column N22 area; about three feet south of Cubicle 152; approximately five feet	11:50/11:53	Volatile Organic Compounds	ND < 0.1	N/A
above floor/Normal office activities		Ozone	ND < 0.05	

ND: Not detected <: Less than

N/A: Not applicable ppm: Parts per million



Report for:

Mr. Wes Frey Hygiene Technologies International, Inc.: Northern California 3127 Bowen Island Street West Sacramento, CA 95691

Regarding: Project: 20802001 EML ID: 391883

Approved by:

Lab Manager Magzoub Ismail Dates of Analysis:

Spore trap analysis: 02-27-2008

Project SOPs: Spore trap analysis (I100000)

This coversheet is included with your report in order to comply with AIHA and ISO accreditation requirements.

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

3800 Watt Ave., Suite 145, Sacramento, CA 95821 (650) 829-5800 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.: Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		02001- 9outME		02001- 20ME		02001- 21ME		02001- 22ME
Comments (see below)		Vone		Vone		Vone		Vone
Lab ID-Version‡:	172	0573-1	172	0574-1	172	0575-1	172	0576-1
·	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria		•		•		•		
Arthrinium								
Ascospores*	16	853			1	53		
Aureobasidium								
Basidiospores*	30	1,600	1	53			1	53
Bipolaris/Drechslera group		,						
Botrytis								
Chaetomium								
Cladosporium	18	960	2	107			1	53
Curvularia								
Epicoccum	2	27						
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†	3	160					1	53
Pithomyces								
Rusts*								
Smuts*, Periconia, Myxomycetes*							2	27
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	1+		1+		1+		1+	
Hyphal fragments/m3	< 13		13		< 13		< 13	
Pollen/m3	173		13		< 13		13	
Skin cells (1-4+)	< 1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
TOTAL SPORE/m3		3,600		160		53		186

**Comments:** 

<sup>\*</sup> Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi.

Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens. † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

<sup>††</sup>Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

<sup>‡</sup> A "Version" greater than 1 indicates amended data.

3800 Watt Ave., Suite 145, Sacramento, CA 95821 (650) 829-5800 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.: Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	20802001- TM23ME		20802001- TM24ME		20802001- TM25ME		20802001- TM26ME	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	1720577-1		1720578-1		1720579-1		1720580-1	
	raw ct.	spores/m3						
Alternaria		_		_		_	1	13
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*	1	53	1	53	1	53		
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium			1	53			1	53
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†							1	53
Pithomyces								
Rusts*			1	13				
Smuts*, Periconia, Myxomycetes*								
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	1+		1+		1+		1+	
Hyphal fragments/m3	13		13		13		< 13	
Pollen/m3	< 13		13		13		< 13	
Skin cells (1-4+)	1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
TOTAL SPORE/m3		53		119		53		119

**Comments:** 

<sup>\*</sup> Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi.

Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

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Client: Hygiene Technologies International, Inc.: Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008

C/O: Mr. Wes Frey Date of Report: 02-27-2008 Re: 20802001

### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	20802001- TM27ME		20802001- TM28ME		20802001- TM29ME		20802001- TM30ME	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	1720581-1		1720582-1		1720583-1		1720584-1	
	raw ct.	spores/m3						
Alternaria		•		•				
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*	2	107					1	53
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	1	53	1	53	1	53	1	53
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†	2	107						
Pithomyces								
Rusts*								
Smuts*, Periconia, Myxomycetes*								
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	1+		1+		1+		1+	
Hyphal fragments/m3	< 13		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13	
Skin cells (1-4+)	1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
TOTAL SPORE/m3		267		53		53		106

**Comments:** 

<sup>\*</sup> Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi.

Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

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The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

<sup>‡</sup> A "Version" greater than 1 indicates amended data.

Client: Hygiene Technologies International, Inc.: Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

#### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		02001- 31ME		02001- 32ME		02001- 33ME		02001- 34ME
Comments (see below)		lone		Vone		Vone		Vone
Lab ID-Version:	172	0585-1	172	0586-1	172	0587-1	1720588-1	
	raw ct.	spores/m3		spores/m3				spores/m3
Alternaria	1411 011	врогов по	1411 011	Брогов/ппа	1411 011	Брогов, пто	Tavi Ct.	Брогов, та
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*					1	53	1	53
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	1	53	2	107			1	53
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†	1	53						
Pithomyces								
Rusts*								
Smuts*, Periconia, Myxomycetes*								
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	1+		1+		1+		1+	
Hyphal fragments/m3	< 13		13		27		13	
Pollen/m3	< 13		< 13		< 13		13	
Skin cells (1-4+)	1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
TOTAL SPORE/m3		106		107		53		106

**Comments:** 

<sup>\*</sup> Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi.

Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens. † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

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The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

<sup>‡</sup> A "Version" greater than 1 indicates amended data.

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wes Frey

Date of Submittal: 02-22-2008

Date of Receipt: 02-22-2008

Date of Report: 02-27-2008

Re: 20802001

### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	2080200	)1-TM35ME	20802001	-TM36outME
Comments (see below)		None	1	None
Lab ID-Version‡:	172	20589-1	172	20590-1
	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	1	13		
Arthrinium				
Ascospores*	1	53	9	480
Aureobasidium				
Basidiospores*	1	53	16	853
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium			5	267
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Other colorless				
Penicillium/Aspergillus types†			3	160
Pithomyces				
Rusts*				
Smuts*, Periconia, Myxomycetes*				
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Background debris (1-4+)††	1+		1+	
Hyphal fragments/m3	< 13		80	
Pollen/m3	13		27	
Skin cells (1-4+)	1+		1+	
Sample volume (liters)	75		75	
TOTAL SPORE/m3		119		1,760

**Comments:** 

<sup>\*</sup> Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

<sup>†</sup> The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

<sup>††</sup>Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

<sup>‡</sup> A "Version" greater than 1 indicates amended data.

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

Re: 20802001

# $\textbf{MoldRANGE}^{\text{\tiny{TM}}}\textbf{:} \ \textbf{Extended Outdoor Comparison}$

Outdoor Location: 20802001-TM19outME

Fungi Identified	Outdoor	Typic	Typical Outdoor Data by Date†			Typical	Typical Outdoor Data by Location:			
	data	Month: February				State	e: CA			
	spores/m3	low	med	high	freq %	low	med	high	freq %	
Generally able to grow indoors*										
Alternaria	-	7	19	190	35	7	27	230	60	
Bipolaris/Drechslera group	-	7	13	160	10	7	13	120	14	
Chaetomium	-	7	13	130	7	7	13	110	19	
Cladosporium	960	27	290	4,300	89	53	640	6,500	98	
Curvularia	-	7	13	340	8	7	13	210	7	
Epicoccum	27	7	13	240	14	7	13	160	21	
Nigrospora	-	7	13	140	8	7	13	170	8	
Penicillium/Aspergillus types	160	27	160	1,700	84	40	210	2,500	89	
Stachybotrys	-	7	13	370	3	7	13	330	5	
Torula	-	7	13	230	5	7	13	150	13	
Seldom found growing indoors**										
Ascospores	853	13	110	2,200	67	13	110	1,800	73	
Basidiospores	1,600	13	270	8,600	87	13	270	6,900	95	
Rusts	-	7	13	240	11	7	13	270	29	
Smuts, Periconia, Myxomycetes	-	7	27	270	53	8	40	480	71	
TOTAL SPORES/M3	3,600									

<sup>†</sup> The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

<sup>‡</sup> The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

<sup>\*</sup>The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

<sup>\*\*</sup>These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey

Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

Date of Submittal: 02-22-2008

Re: 20802001

# $\textbf{MoldRANGE}^{\text{\tiny{TM}}}\textbf{:} \ \textbf{Extended Outdoor Comparison}$

Outdoor Location: 20802001-TM36outME

Fungi Identified	Outdoor	Typic	al Outdoo	r Data by	Date†	Typical Outdoor Data by Location:			
	data	Month: February				State	: CA		
	spores/m3	low	med	high	freq %	low	med	high	freq %
Generally able to grow indoors*									
Alternaria	-	7	19	190	35	7	27	230	60
Bipolaris/Drechslera group	-	7	13	160	10	7	13	120	14
Chaetomium	-	7	13	130	7	7	13	110	19
Cladosporium	267	27	290	4,300	89	53	640	6,500	98
Curvularia	-	7	13	340	8	7	13	210	7
Epicoccum	-	7	13	240	14	7	13	160	21
Nigrospora	-	7	13	140	8	7	13	170	8
Penicillium/Aspergillus types	160	27	160	1,700	84	40	210	2,500	89
Stachybotrys	-	7	13	370	3	7	13	330	5
Torula	-	7	13	230	5	7	13	150	13
Seldom found growing indoors**									
Ascospores	480	13	110	2,200	67	13	110	1,800	73
Basidiospores	853	13	270	8,600	87	13	270	6,900	95
Rusts	-	7	13	240	11	7	13	270	29
Smuts, Periconia, Myxomycetes	-	7	27	270	53	8	40	480	71
TOTAL SPORES/M3	1,760								

<sup>†</sup> The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

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<sup>‡</sup> The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

<sup>\*</sup>The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

<sup>\*\*</sup>These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey Re: 20802001 Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

### MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Outdoor Summary: 20802001-TM19outME:

Species detected		Outdoo	r sample s	pores/m3		Typical outdo	Freq.	
	<100	1K	10K	>100K		(North Ar	nerica)	%
Ascospores					853	13 - 160	- 4,200	76
Basidiospores				1	,600	13 - 320	- 14,000	92
Cladosporium					960	40 - 530	- 8,500	95
Epicoccum					27	7 - 13	- 320	24
Penicillium/Aspergillus types					160	27 - 210	- 2,600	85
Smuts, Periconia, Myxomycetes					ND	7 - 40	- 760	70
Total				3	3,600			

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

#### **Indoor Samples**

**Location:** 20802001-TM20ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)	
Result: 4%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5714		dF: 5 Result: 0.8000 Critical value: 0.8000 Outside Similar: No		Score: 104 Result: Low	
Species 1	Detected			Spores/m3	3		
		<100	1K	10	)K	>100K	
	Basidiospores					53	
Cladosporium						107	
	Total					160	

**Location:** 20802001-TM21ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ent ratio** c/outdoor)	correl	nan rank ation*** /outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 1%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.3333		dF: 5 Result: 0.2500 Critical value: 0.8000 Outside Similar: No		Score: 100 Result: Low		
Species 1	Species Detected			Spores/m3				
		<100	1K		10K	>100K		
	Ascospores					53		
	Total					53		

Client: Hygiene Technologies International, Inc.: Northern California Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

### MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM22ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ent ratio** /outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)			
Result: 5%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Resul	:: 0.6667	dF: 6 Result: 0.5571 Critical value: 0.7714 Outside Similar: No	Score: 107 Result: Low			
Species 1	<b>Species Detected</b>		Spores/m3					
		<100	1K	10K	>100K			
	Basidiospores				53			
	Cladosporium				53			
Penicillium/Aspergillus types					53			
Smuts, Periconia, Myxomycetes					27			
	Total				186			

**Location:** 20802001-TM23ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)		
Result: 1%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.3333		dF: 5 Result: 0.7500 Critical value: 0.8000 Outside Similar: No		Score: 103 Result: Low		
Species 1	Species Detected			Spores/m3				
		<100	1K		10K	>100K		
	Basidiospores					53		
	Total					53		

**Location:** 20802001-TM24ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 3%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5000		dF: 6 Result: 0.5857 Critical value: 0.7714 Outside Similar: No	Score: 101 Result: Low	
Species 1	Detected			Spores/m3		
		<100	1K	10K	>100K	
	Basidiospores				53	
	Cladosporium				53	
	Rusts	3			13	
	Total				119	

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Client: Hygiene Technologies International, Inc.: Northern California Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM25ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)
Result: 1%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.3333		dF: 5 Result: 0.7500 Critical value: 0.8000 Outside Similar: No		Score: 103 Result: Low
Species	Detected			Spores/m	13	
		<100	1K	1	0K	>100K
	Basidiospores					53
	Total					53

**Location:** 20802001-TM26ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)			
Result: 3%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5000	dF: 6 Result: -0.0143 Critical value: 0.7714 Outside Similar: No	Score: 108 Result: Low			
Species 1	Detected	Spores/m3					
		<100 1K	10K	>100K			
	Alternaria			13			
Cladosporium				53			
Penicillium/Aspergillus types				53			
	Total			119			

**Location:** 20802001-TM27ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 7%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.7500		dF: 5 Result: 0.5000 Critical value: 0.8000 Outside Similar: No	Score: 115 Result: Low	
Species 1	Detected			Spores/m3		
		<100	1K	10K	>100K	
	Basidiospores				107	
Cladosporium					53	
Penicillium/Aspergillus types					107	
	Total				267	

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Client: Hygiene Technologies International, Inc.: Northern California Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM28ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.3333		dF: 5 Result: 0.5000 Critical value: 0.8000 Outside Similar: No		Score: 102 Result: Low	
Species	Detected			Spores/	m3		
		<100	1K		10K	>100K	
	Cladosporium					53	
	Total					53	

**Location:** 20802001-TM29ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)
Result: 1%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.3333		dF: 5 Result: 0.5000 Critical value: 0.8000 Outside Similar: No		Score: 102 Result: Low
Species	Detected			Spores/	/m3	
		<100	1K		10K	>100K
	Cladosporium					53
	<u>Total</u>					53

**Location:** 20802001-TM30ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5714	dF: 5 Result: 0.8750 Critical value: 0.8000 Outside Similar: Yes	Score: 102 Result: Low	
Species	Detected		Spores/m3		
		<100 1K	10K	>100K	
	Basidiospores			53	
Cladosporium				53	
	Total			106	

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Client: Hygiene Technologies International, Inc.: Northern California Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM31ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		correl	nan rank ation*** /outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5714		dF: 5 Result: 0.1250 Critical value: 0.8000 Outside Similar: No		Score: 10 Result: Lo	-
Species	Detected			Spor	res/m3		
		<100	1K		10K	>100K	
	Cladosporium						53
Penicillium/Aspergillus types							53
	Total						106

**Location:** 20802001-TM32ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.3333	dF: 5 Result: 0.5000 Critical value: 0.8000 Outside Similar: No	Score: 105 Result: Low
Species	Detected		Spores/m3	
		<100 1K	10 <b>K</b>	>100K
	Cladosporium			107
	Total			107

**Location:** 20802001-TM33ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.3333		dF: 5 Result: 0.7500 Critical value: 0.8000 Outside Similar: No	Score: 103 Result: Low	
Species	Detected			Spores/m3		
		<100	1K	10K	>100K	
	Basidiospores				53	
	Total				53	

Client: Hygiene Technologies International, Inc.:

Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

### MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM34ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rar correlation** (indoor/outdoo	**	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5714		dF: 5 Result: 0.8750 Critical value: 0.8000 Outside Similar: Yes		Score: 102 Result: Low	
Species 1	Detected			Spores/m3			
		<100	1K	10K	(	>100K	
	Basidiospores					53	
Cladosporium						53	
	Total					106	

**Location:** 20802001-TM35ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 3%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5000		dF: 6 Result: 0.3857 Critical value: 0.7714 Outside Similar: No	Score: 105 Result: Low
Species	Detected			Spores/m3	
		<100	1K	10K	>100K
	Alternaria				13
Ascospores					53
Basidiospores					53
	Total				119

<sup>\*</sup> The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

<sup>\*\*</sup> An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

<sup>\*\*\*</sup> The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

Client: Hygiene Technologies International, Inc.:

Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

### MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

\*\*\*\* MoldSCORETM is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

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Client: Hygiene Technologies International, Inc.:

Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Outdoor Summary: 20802001-TM36outME:

Species detected		Outdoo	r sample s <sub>l</sub>	pores/m3	Typical outdoor ranges	Freq.	
	<100	1K	10K	>100K		(North America)	<b>%</b>
Ascospores					480	13 - 160 - 4,200	76
Basidiospores					853	13 - 320 - 14,000	92
Cladosporium					267	40 - 530 - 8,500	95
Penicillium/Aspergillus types					160	27 - 210 - 2,600	85
Smuts, Periconia, Myxomycetes					ND	7 - 40 - 760	70
Total				1	,760		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

### **Indoor Samples**

**Location:** 20802001-TM20ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 9%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.6667	dF: 4 Result: 0.2500 Critical value: N/A Outside Similar: N/A	Score: 105 Result: Low	
Species 1	Detected		Spores/m3		
		<100 1K	10K	>100K	
	Basidiospores			53	
Cladosporium				107	
	Total			160	

**Location:** 20802001-TM21ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		correla		MoldSCORE**** (indoor/outdoor)	
Result: 3%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.4000		dF: 4 Result: 0.4000 Critical value: N/A Outside Similar: N/A		Score: 100 Result: Lov	
Species	Detected			Spor	es/m3		
		<100	1K		10K	>100K	
	Ascospores						53
	Total						53

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Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey

Re: 20802001

Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM22ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 10%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result	:: 0.7500	dF: 5 Result: 0.2000 Critical value: 0.8000 Outside Similar: No	Score: 106 Result: Low	
Species 1	Detected	Spores/m3				
		<100	1K	10K	>100K	
	Basidiospores				53	
	Cladosporium				53	
Penicillium/Aspergillus types					53	
Smuts, P	ericonia, Myxomycetes				27	
	Total				186	

**Location:** 20802001-TM23ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)
Result: 3%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.4000		dF: 4 Result: 0.8000 Critical value: N/A Outside Similar: N/A		Score: 103 Result: Low
Species	Detected	Spores/m3				
		<100	1K		10K	>100K
	Basidiospores					53
	Total					53

#### **Location:** 20802001-TM24ME

<b>Location:</b> 20002001-	11/12 /1/12				
% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 6%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5714		dF: 5 Result: 0.3500 Critical value: 0.8000 Outside Similar: No	Score: 102 Result: Low
Species	Detected			Spores/m3	
		<100	1K	10K	>100K
	Basidiospores				53
	Cladosporium				53
	Rusts				13
	Total				119

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Client: Hygiene Technologies International, Inc.: Northern California Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM25ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 3%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.4000		dF: 4 Result: 0.8000 Critical value: N/A Outside Similar: N/A	Score: 103 Result: Low
Species 1	Detected	Spores/m3			
		<100	1K	10K	>100K
	Basidiospores				53
	Total				53

**Location:** 20802001-TM26ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 6%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5714	dF: 5 Result: -0.5500 Critical value: 0.8000 Outside Similar: No	Score: 107 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	Alternaria			13
Cladosporium				53
Penicillium/Aspergillus types				53
	Total			119

**Location:** 20802001-TM27ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio* (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)
Result: 15%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.8571	dF: 4 Result: -0.0500 Critical value: N/A Outside Similar: N/A	Score: 114 Result: Low
Species 1	Detected		Spores/m3	
		<100 1H	X 10K	>100K
	Basidiospores			107
	Cladosporium			53
Penic	illium/Aspergillus types			107
	Total			267

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Client: Hygiene Technologies International, Inc.: Northern California Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM28ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)
Result: 3%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.4000		dF: 4 Result: 0.0000 Critical value: N/A Outside Similar: N/A		Score: 103 Result: Low
Species	Detected	S		Spo	res/m3	
		<100	1K		10K	>100K
	Cladosporium					53
	Total					53

**Location:** 20802001-TM29ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		nent ratio** or/outdoor)	Spearman rank correlation*** (indoor/outdoor	(indoor/outdoor)
Result: 3%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Resi	ult: 0.4000	dF: 4 Result: 0.0000 Critical value: N/A Outside Similar: N/A	
Species	Detected	Spores/m3			
		<100	1K	10K	>100K
	Cladosporium				53
	Total				53

**Location:** 20802001-TM30ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 6%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.6667	dF: 4 Result: 0.5000 Critical value: N/A Outside Similar: N/A	Score: 102 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			53
	Cladosporium			53
	Total			106

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Client: Hygiene Technologies International, Inc.: Northern California Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM31ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCOR (indoor/out	
Result: 6%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Resu	ılt: 0.6667	Resu Critica	dF: 4 lt: -0.7000 l value: N/A Similar: N/A	Score: 10 Result: Lo	
Species 1	Detected			Spo	ores/m3		
		<100	1K		10K	>100K	
	Cladosporium						53
Penic	Penicillium/Aspergillus types						53
	Total						106

**Location:** 20802001-TM32ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 6%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: 0.0000 Critical value: N/A Outside Similar: N/A	Score: 106 Result: Low
Species	Detected		Spores/m3	
		<100 1K	10K	>100K
	Cladosporium			107
	Total			107

Location: 20802001-TM33ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 3%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: 0.8000 Critical value: N/A Outside Similar: N/A	Score: 103 Result: Low
Species	Detected	Spores/m3		
		<100 1K	10K	>100K
	Basidiospores			53
	Total			53

Client: Hygiene Technologies International, Inc.:

Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

### MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** 20802001-TM34ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 6%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.6667	dF: 4 Result: 0.5000 Critical value: N/A Outside Similar: N/A	Score: 102 Result: Low		
Species 1	Detected		Spores/m3			
		<100 1K	10K	>100K		
	Basidiospores			53		
	Cladosporium			53		
	Total			106		

**Location:** 20802001-TM35ME

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)						
Result: 6%	dF: 15 Result: 6.1733 Critical value: 24.9958 Inside Similar: Yes	Result: 0.5714	dF: 5 Result: 0.6500 Critical value: 0.8000 Outside Similar: No	Score: 105 Result: Low						
Species 1	Detected	Spores/m3								
		<100 1K	10K	>100K						
	Alternaria			13						
	Ascospores			53						
	Basidiospores			53						
	Total			119						

<sup>\*</sup> The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

<sup>\*\*</sup> An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

<sup>\*\*\*</sup> The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

Client: Hygiene Technologies International, Inc.:

Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-27-2008

Re: 20802001

### MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

\*\*\*\* MoldSCORETM is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

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Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey

Re: 20802001

Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

ND

ND

< 13

< 13

3,600

## MoldSCORETM: Spore Trap Report Outdoor Sample: 20802001-TM19outME

**Fungi Identified** Outdoor sample spores/m3 Raw Spores/ >100K **count** <100 10K m3Generally able to grow indoors\* ND Alternaria < 13 ND Bipolaris/Drechslera group < 13 ND Chaetomium < 13 Cladosporium 18 960 ND Curvularia < 13 **Epicoccum** 2 27 ND Nigrospora < 13 Penicillium/Aspergillus types† 3 160 ND Stachybotrys < 13 ND Torula < 13 Seldom found growing indoors\*\* Ascospores†† 16 853 Basidiospores†† 30 1,600

**Location:** 20802001-TM20ME

Smuts, Periconia, Myxomycetes††

Rusts

**Total** 

Fungi Identified	Ir	ıdo	or	· S	am	pl	e s	sp	ore	es/i	m3	3	Raw	Spores/
	<10	0		1	K			1	0 <b>K</b>	3	>100	)K	count	m3
Generally able to grow indoors*														
Alternaria													ND	< 13
Bipolaris/Drechslera group													ND	< 13
Chaetomium													ND	< 13
Cladosporium													2	107
Curvularia													ND	< 13
Nigrospora													ND	< 13
Penicillium/Aspergillus types†													ND	< 13
Stachybotrys													ND	< 13
Torula													ND	< 13
Seldom found growing indoors**														
Ascospores††													ND	< 13
Basidiospores††													1	53
Rusts													ND	< 13
Smuts, Periconia, Myxomycetes††													ND	< 13
Total														160

MoldSCORE; 100 200 300 Score								
100	200	300	Score					
			100					
			100					
			100					
			100					
			104					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
Final	MoldSCO	ORE	104					

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

Re: 20802001

MoldSCORE<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM21ME

Fungi Identified	Ind	00	r s	amp	ole s	spor	es/i	m3	Raw	Spores/
	<100		1	K		10K		>100	count	m3
Generally able to grow indoors*										
Alternaria									ND	< 13
Bipolaris/Drechslera group									ND	< 13
Chaetomium									ND	< 13
Cladosporium									ND	< 13
Curvularia									ND	< 13
Nigrospora									ND	< 13
Penicillium/Aspergillus types†									ND	< 13
Stachybotrys									ND	< 13
Torula		$\prod$							ND	< 13
Seldom found growing indoors**										
Ascospores††									1	53
Basidiospores††		$\prod$							ND	< 13
Rusts									ND	< 13
Smuts, Periconia, Myxomycetes††									ND	< 13
Total										53

100 <b>MoldSCORE</b> :	
	100
	100
	100
	100
	100
	100
	100
	100
	100
	116
	100
	100
	100
Final MoldSCORE	100

**Location:** 20802001-TM22ME

Fungi Identified	Ind	oor	sam	ple s	spor	es/n	13	Raw	Spores/
	<100		1K		10K	>	100K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								1	53
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								2	27
Total									186

100	Score		
			100
			100
			100
			100
			100
			100
			107
			100
			100
			100
			100
			100
			105
Fina	al MoldSCC	RE	107

Client: Hygiene Technologies International, Inc.: Northern California

C/O: Mr. Wes Frey

Re: 20802001

Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

## **MoldSCORE**<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM23ME

Fungi Identified	Indo	or s	amp	le s	spore	s/m	13	Raw	Spores/
_	<100		IK _		10K	>1	00K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								ND	< 13
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts				Ш				ND	< 13
Smuts, Periconia, Myxomycetes††				П				ND	< 13
Total									53

Mold 100 200	E‡ 00 Score	
100 200	, 30	o beore
		100
		100
		100
		100
		100
		100
		100
		100
		100
		100
		103
		100
		100
Final Mold	SCORE	103
-		

**Location:** 20802001-TM24ME

Fungi Identified	Ind	loor	san	ıple	spor	es/n	<b>13</b>	Raw	Spores/
	<100		1K		10K	>	100K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts								1	13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total									119

MoldSCORE: 100 200 300 S								
			100					
			100					
			100					
			101					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			105					
			100					
Fina	l MoldSC	ORE	101					

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey Re: 20802001 Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

 $MoldSCORE^{TM}\hbox{:} Spore \ Trap \ Report$ 

**Location:** 20802001-TM25ME

Fungi Identified	Indoor sam	ple spore	s/m3	Raw	Spores/
_	<100 1K	10K	>100K	count	m3
Generally able to grow indoors*					
Alternaria				ND	< 13
Bipolaris/Drechslera group				ND	< 13
Chaetomium				ND	< 13
Cladosporium				ND	< 13
Curvularia				ND	< 13
Nigrospora				ND	< 13
Penicillium/Aspergillus types†				ND	< 13
Stachybotrys				ND	< 13
Torula				ND	< 13
Seldom found growing indoors**					
Ascospores††				ND	< 13
Basidiospores††				1	53
Rusts				ND	< 13
Smuts, Periconia, Myxomycetes††				ND	< 13
Total		·			53

MoldSCORE:	
	100
	100
	100
	100
	100
	100
	100
	100
	100
	100
	103
	100
	100
Final MoldSCORE	103

**Location:** 20802001-TM26ME

Fungi Identified	Indo	or	samj	ole s	pore	s/n	13	Raw	Spores/
	<100		1K		10K	>	100K	count	m3
Generally able to grow indoors*									
Alternaria		Ш				Ш		1	13
Bipolaris/Drechslera group								ND	< 13
Chaetomium		Ш		Ш		Ш		ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								1	53
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								ND	< 13
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total									119

MoldSCORE; 100 200 300 Score								
			105					
			100					
			100					
			101					
			100					
			100					
			108					
			100					
			100					
			100					
			100					
			100					
			100					
Fina	al MoldSC	ORE	108					

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey

Re: 20802001

Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

**MoldSCORE**<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM27ME

Fungi Identified	Indo	Indoor sample spores/m3					Raw	Spores/	
	<100		1K		10K	>1	00K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								2	107
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								2	107
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total									267

MoldSC 200	Score	
200		50010
		100
		100
		100
		100
		100
		100
		115
		100
		100
		100
		100
		100
		100
Final MoldSC	ORE	115
•		

**Location:** 20802001-TM28ME

Fungi Identified	Indo	or sam	iple spore	s/m3	Raw	Spores/
	<100	1K	10K	>100K	count	m3
Generally able to grow indoors*						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					1	53
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††					ND	< 13
Basidiospores††					ND	< 13
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes††					ND	< 13
Total						53

100	Score		
			100
			100
			100
			102
			100
			100
			100
			100
			100
			100
			100
			100
			100
Fina	al MoldSC	ORE	102

Client: Hygiene Technologies International, Inc.: Northern California

C/O: Mr. Wes Frey

Re: 20802001

Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

## **MoldSCORE**<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM29ME

Fungi Identified	Indo	or	sam	ple	spore	es/n	13	Raw	Spores/
	<100		1K		10K	>	100K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								ND	< 13
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total			·						53

MoldSCORE:	Score 100 100
	100
	100
	102
	100
	100
	100
	100
	100
	100
	100
	100
	100
Final MoldSCORE	102

**Location:** 20802001-TM30ME

Fungi Identified	Ind	loor	san	nple	spor	es/ı	m3	Raw	Spores/
	<100		1K		10K	3	>100K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total									106

MoldSCORE: 200 300 Sc								
			100					
			100					
			100					
			102					
			100					
			100					
			100					
			100					
			100					
			100					
			101					
			100					
			100					
Fina	al MoldSC	ORE	102					

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey

Re: 20802001

Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

## **MoldSCORETM:** Spore Trap Report

**Location:** 20802001-TM31ME

Fungi Identified	Indo	Indoor sample spores/m3							Spores/
	<100		1K		10K	>1	00K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								1	53
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								ND	< 13
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total									106

MoldSCORE;	Score
	100
	100
	100
	102
	100
	100
	108
	100
	100
	100
	100
	100
	100
Final MoldSCORE	108

**Location:** 20802001-TM32ME

Fungi Identified	Ind	oor s	ample	spor	es/m3	Raw	Spores/
	<100	1	K	10K	>1001	count	m3
Generally able to grow indoors*							
Alternaria						ND	< 13
Bipolaris/Drechslera group						ND	< 13
Chaetomium						ND	< 13
Cladosporium						2	107
Curvularia						ND	< 13
Nigrospora						ND	< 13
Penicillium/Aspergillus types†						ND	< 13
Stachybotrys						ND	< 13
Torula						ND	< 13
Seldom found growing indoors**							
Ascospores††						ND	< 13
Basidiospores††						ND	< 13
Rusts						ND	< 13
Smuts, Periconia, Myxomycetes††						ND	< 13
Total							107

100	MoldSCORE: 300 Score								
			100						
			100						
			100						
			105						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
Fina	l MoldSCC	RE	105						

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey

Re: 20802001

Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

## **MoldSCORETM:** Spore Trap Report

**Location:** 20802001-TM33ME

Fungi Identified	Indo	or sa	ample	3	Raw	Spores/		
	<100	11	K	10K	>10	00K	count	m3
Generally able to grow indoors*								
Alternaria							ND	< 13
Bipolaris/Drechslera group							ND	< 13
Chaetomium							ND	< 13
Cladosporium							ND	< 13
Curvularia							ND	< 13
Nigrospora							ND	< 13
Penicillium/Aspergillus types†							ND	< 13
Stachybotrys							ND	< 13
Torula							ND	< 13
Seldom found growing indoors**								
Ascospores††							ND	< 13
Basidiospores††							1	53
Rusts							ND	< 13
Smuts, Periconia, Myxomycetes††							ND	< 13
Total								53

Mold 100 200	SCORI	E‡ 00 Score								
100 200	, 30	o beore								
		100								
		100								
		100								
		100								
		100								
		100								
		100								
		100								
		100								
		100								
		103								
		100								
		100								
Final Mold	SCORE	103								
-										

**Location:** 20802001-TM34ME

Fungi Identified	Ind	oor sa	mple	e spor	es/m3	Raw	Spores/
	<100	11	ζ.	10K	>100	K count	m3
Generally able to grow indoors*							
Alternaria						ND	< 13
Bipolaris/Drechslera group						ND	< 13
Chaetomium						ND	< 13
Cladosporium						1	53
Curvularia						ND	< 13
Nigrospora						ND	< 13
Penicillium/Aspergillus types†						ND	< 13
Stachybotrys						ND	< 13
Torula						ND	< 13
Seldom found growing indoors**							
Ascospores††						ND	< 13
Basidiospores††						1	53
Rusts						ND	< 13
Smuts, Periconia, Myxomycetes††						ND	< 13
Total							106

100	MoldSCORE; 100 200 300 Score								
			100						
			100						
			100						
			102						
			100						
			100						
			100						
			100						
			100						
			100						
			101						
			100						
			100						
Fina	al MoldSC(	ORE	102						

Date of Submittal: 02-22-2008

Date of Receipt: 02-22-2008

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey

Date of Report: 02-27-2008 Re: 20802001

MoldSCORE<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM35ME

Fungi Identified	Ind	00	r	samj	ple	sp	ores	s/n	<b>n3</b>	Raw	Spores/
	<100			1K		10	OΚ	>	100F	count	m3
Generally able to grow indoors*											
Alternaria										1	13
Bipolaris/Drechslera group										ND	< 13
Chaetomium										ND	< 13
Cladosporium										ND	< 13
Curvularia										ND	< 13
Nigrospora										ND	< 13
Penicillium/Aspergillus types†										ND	< 13
Stachybotrys										ND	< 13
Torula										ND	< 13
Seldom found growing indoors**											
Ascospores††										1	53
Basidiospores††										1	53
Rusts										ND	< 13
Smuts, Periconia, Myxomycetes††										ND	< 13
Total											119

core
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05
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.00
.00
.00
.00
.00
10
.00
.00
.00
.05

<sup>\*</sup>The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

<sup>\*\*</sup>These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

<sup>†</sup>The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

<sup>††</sup>Most of these spore types are not seen with culturable methods (Anderson sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores.

<sup>‡</sup>Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

Re: 20802001

MoldSCORE<sup>TM</sup>: Spore Trap Report Outdoor Sample: 20802001-TM36outME

Fungi Identified	Ou	tdo	or	sam	ple	S	or	es/	m3	Raw	Spores/
_	<100 1K		10K		>100K		count	m3			
Generally able to grow indoors*											
Alternaria										ND	< 13
Bipolaris/Drechslera group										ND	< 13
Chaetomium										ND	< 13
Cladosporium										5	267
Curvularia										ND	< 13
Nigrospora										ND	< 13
Penicillium/Aspergillus types†										3	160
Stachybotrys										ND	< 13
Torula										ND	< 13
Seldom found growing indoors**											
Ascospores††										9	480
Basidiospores††										16	853
Rusts										ND	< 13
Smuts, Periconia, Myxomycetes††										ND	< 13
Total											1,760

**Location:** 20802001-TM20ME

Fungi Identified	Ind	oor s	ampl	e spor	es/m	3	Raw	Spores/
	<100	1	K	10K	>10	0K	count	m3
Generally able to grow indoors*								
Alternaria							ND	< 13
Bipolaris/Drechslera group							ND	< 13
Chaetomium							ND	< 13
Cladosporium							2	107
Curvularia							ND	< 13
Nigrospora							ND	< 13
Penicillium/Aspergillus types†							ND	< 13
Stachybotrys							ND	< 13
Torula							ND	< 13
Seldom found growing indoors**								
Ascospores††							ND	< 13
Basidiospores††							1	53
Rusts							ND	< 13
Smuts, Periconia, Myxomycetes††							ND	< 13
Total								160

100	Score								
100	100 200 300								
			100						
			100						
			100						
			105						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
Fin	Final MoldSCORE								

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey

Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

Re: 20802001

## MoldSCORE<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM21ME

Fungi Identified	Ind	00	r	samp	ole s	por	es/ı	n3	3	Raw	Spores/
	<100			1K		10K	>	>10	0K	count	m3
Generally able to grow indoors*											
Alternaria										ND	< 13
Bipolaris/Drechslera group										ND	< 13
Chaetomium										ND	< 13
Cladosporium										ND	< 13
Curvularia										ND	< 13
Nigrospora										ND	< 13
Penicillium/Aspergillus types†										ND	< 13
Stachybotrys										ND	< 13
Torula										ND	< 13
Seldom found growing indoors**											
Ascospores††										1	53
Basidiospores††										ND	< 13
Rusts										ND	< 13
Smuts, Periconia, Myxomycetes††										ND	< 13
Total											53

MoldSCORE 100 200 300	
	100
	100
	100
	100
	100
	100
	100
	100
	100
	116
	100
	100
	100
Final MoldSCORE	100

**Location:** 20802001-TM22ME

Fungi Identified	Ind	loor s	amp	ole s	spor	es/n	<b>13</b>	Raw	Spores/
	<100	1	K		10K	>	100K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								1	53
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								2	27
Total									186

1											
100	MoldSCORE 100 200 300										
			100								
			100								
			100								
			102								
			100								
			100								
			106								
			100								
			100								
			100								
			100								
			100								
			105								
Fina	Final MoldSCORE										

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

Re: 20802001

MoldSCORE<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM23ME

Fungi Identified	Indo	or s	amp	le s	spore	s/m	13	Raw	Spores/
_	<100		IK _		10K	>1	00K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								ND	< 13
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts				Ш				ND	< 13
Smuts, Periconia, Myxomycetes††				П				ND	< 13
Total									53

MoldSCORE;	Score
	100
	100
	100
	100
	100
	100
	100
	100
	100
	100
	103
	100
	100
Final MoldSCORE	103

**Location:** 20802001-TM24ME

Fungi Identified	Ind	loor	san	ıple	spor	es/n	<b>13</b>	Raw	Spores/
	<100		1K		10K	>	100K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts								1	13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total									119

100	MoldS(		Score					
100	100 200 300							
			100					
			100					
			100					
			102					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			105					
			100					
Fina	Final MoldSCORE							

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey Re: 20802001 Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

 $MoldSCORE^{TM}\hbox{:} Spore \ Trap \ Report$ 

**Location:** 20802001-TM25ME

Fungi Identified	Ind	00	r sa	mp	le s	spore	es/r	n3	Raw	Spores/
	<100		1 <b>I</b>	ζ		10K	>	-100I	count	m3
Generally able to grow indoors*										
Alternaria									ND	< 13
Bipolaris/Drechslera group									ND	< 13
Chaetomium									ND	< 13
Cladosporium									ND	< 13
Curvularia									ND	< 13
Nigrospora									ND	< 13
Penicillium/Aspergillus types†									ND	< 13
Stachybotrys									ND	< 13
Torula									ND	< 13
Seldom found growing indoors**										
Ascospores††									ND	< 13
Basidiospores††									1	53
Rusts									ND	< 13
Smuts, Periconia, Myxomycetes††									ND	< 13
Total										53

100	MoldSC 200		Score						
100	200	300	Score						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			103						
			100						
			100						
Fina	Final MoldSCORE								

**Location:** 20802001-TM26ME

Fungi Identified	Inc	doo	r	sam	ple	S	por	es/i	m3		Raw	Spores/
	<100			1K			10K	2	>100	K	count	m3
Generally able to grow indoors*												
Alternaria		Ш			Ш					Ш	1	13
Bipolaris/Drechslera group											ND	< 13
Chaetomium											ND	< 13
Cladosporium											1	53
Curvularia											ND	< 13
Nigrospora											ND	< 13
Penicillium/Aspergillus types†											1	53
Stachybotrys											ND	< 13
Torula											ND	< 13
Seldom found growing indoors**												
Ascospores††											ND	< 13
Basidiospores††											ND	< 13
Rusts											ND	< 13
Smuts, Periconia, Myxomycetes††											ND	< 13
Total												119

MoldSCORE: Score 200 300 Score								
			105					
			100					
			100					
			102					
			100					
			100					
			107					
			100					
			100					
			100					
			100					
			100					
			100					
Final	MoldSCC	ORE	107					

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

Re: 20802001

### **MoldSCORE**<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM27ME

Fungi Identified	Ind	loo	r	samp	ole s	por	es/1	n3	3	Raw	Spores/
	<100			1K		10K	>	-100	)K	count	m3
Generally able to grow indoors*											
Alternaria										ND	< 13
Bipolaris/Drechslera group										ND	< 13
Chaetomium										ND	< 13
Cladosporium										1	53
Curvularia										ND	< 13
Nigrospora										ND	< 13
Penicillium/Aspergillus types†										2	107
Stachybotrys										ND	< 13
Torula										ND	< 13
Seldom found growing indoors**											
Ascospores††										ND	< 13
Basidiospores††										2	107
Rusts										ND	< 13
Smuts, Periconia, Myxomycetes††										ND	< 13
Total											267

100 <b>Mol</b>	E‡ 00 Score								
		100							
		100							
		100							
		101							
		100							
		100							
		114							
		100							
		100							
		100							
		100							
		100							
		100							
Final Mo	ldSCORE	114							

**Location:** 20802001-TM28ME

Fungi Identified	Inde	oor sa	mple spore	es/m3	Raw	Spores/
	<100	1K	10K	>100K	count	m3
Generally able to grow indoors*						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					1	53
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††					ND	< 13
Basidiospores††					ND	< 13
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes††					ND	< 13
Total						53

100	MoldSCORE; 100 200 300 Score										
			100								
			100								
			100								
			103								
			100								
			100								
			100								
			100								
			100								
			100								
			100								
			100								
			100								
Fina	al MoldSC	ORE	103								

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

Re: 20802001

## MoldSCORE<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM29ME

Fungi Identified	Inde	or	san	ple	spor	es/n	n3	Raw	Spores/
	<100		1K		10K	>	100	count	m3
Generally able to grow indoors*									
Alternaria		Ш						ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium		Ш						1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†		Ш						ND	< 13
Stachybotrys		Ш						ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								ND	< 13
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total									53

100 <b>MoldSCORE</b> 200 300	Score
	100
	100
	100
	103
	100
	100
	100
	100
	100
	100
	100
	100
	100
Final MoldSCORE	103

**Location:** 20802001-TM30ME

Fungi Identified	Ind	oor sa	mple	e spor	es/m3	Raw	Spores/
	<100	11	ζ.	10K	>100	K count	m3
Generally able to grow indoors*							
Alternaria						ND	< 13
Bipolaris/Drechslera group						ND	< 13
Chaetomium						ND	< 13
Cladosporium						1	53
Curvularia						ND	< 13
Nigrospora						ND	< 13
Penicillium/Aspergillus types†						ND	< 13
Stachybotrys						ND	< 13
Torula						ND	< 13
Seldom found growing indoors**							
Ascospores††						ND	< 13
Basidiospores††						1	53
Rusts						ND	< 13
Smuts, Periconia, Myxomycetes††						ND	< 13
Total							106

MoldSCORE: 200 300 Score												
	_											
			100									
			100									
			100									
			102									
			100									
			100									
			100									
			100									
			100									
			100									
			101									
			100									
			100									
Fina	al MoldSC	ORE	102									

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

Re: 20802001

## MoldSCORE<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM31ME

Fungi Identified	Indo	or	samp	le s	pore	s/n	13	Raw	Spores/
	<100		1K		10K	>1	100K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								1	53
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								ND	< 13
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total					•				106

MoldSCORE;	Score
200 200	
	100
	100
	100
	102
	100
	100
	107
	100
	100
	100
	100
	100
	100
Final MoldSCORE	107

**Location:** 20802001-TM32ME

Fungi Identified	Inc	doo	r s	am	ple	por	es/	m3	3	Raw	Spores/	
	<100		1	K			10K		>10	0K	count	m3
Generally able to grow indoors*												
Alternaria											ND	< 13
Bipolaris/Drechslera group									Ш		ND	< 13
Chaetomium									Ш		ND	< 13
Cladosporium											2	107
Curvularia									Ш		ND	< 13
Nigrospora									Ш		ND	< 13
Penicillium/Aspergillus types†											ND	< 13
Stachybotrys											ND	< 13
Torula											ND	< 13
Seldom found growing indoors**												
Ascospores††											ND	< 13
Basidiospores††											ND	< 13
Rusts											ND	< 13
Smuts, Periconia, Myxomycetes††											ND	< 13
Total												107

MoldSCORE; 300 Score							
			100				
			100				
			100				
			106				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
Final M	IoldSCC	RE	106				

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey

Re: 20802001

Date of Submittal: 02-22-2008 Date of Receipt: 02-22-2008 Date of Report: 02-27-2008

## **MoldSCORETM:** Spore Trap Report

**Location:** 20802001-TM33ME

Fungi Identified	Indoor sample spores/m3							Raw	Spores/
	<100		1K		10K	>1	00K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								ND	< 13
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total									53

MoldSCORE; 100 200 300 Score								
100 200	o beore							
		100						
		100						
		100						
		100						
		100						
		100						
		100						
		100						
		100						
		100						
		103						
		100						
		100						
Final Mold	SCORE	103						

**Location:** 20802001-TM34ME

Fungi Identified	Ind	oor sa	mple	Raw	Spores/		
	<100	11	ζ.	10K	>100	K count	m3
Generally able to grow indoors*							
Alternaria						ND	< 13
Bipolaris/Drechslera group						ND	< 13
Chaetomium						ND	< 13
Cladosporium						1	53
Curvularia						ND	< 13
Nigrospora						ND	< 13
Penicillium/Aspergillus types†						ND	< 13
Stachybotrys						ND	< 13
Torula						ND	< 13
Seldom found growing indoors**							
Ascospores††						ND	< 13
Basidiospores††						1	53
Rusts						ND	< 13
Smuts, Periconia, Myxomycetes††						ND	< 13
Total							106

MoldSCORE; 100 200 300 Score							
			100				
			100				
			100				
			102				
			100				
			100				
			100				
			100				
			100				
			100				
			101				
			100				
			100				
Fina	al MoldSC(	ORE	102				

Date of Submittal: 02-22-2008

Date of Receipt: 02-22-2008

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey

Date of Report: 02-27-2008 Re: 20802001

MoldSCORE<sup>TM</sup>: Spore Trap Report

**Location:** 20802001-TM35ME

Fungi Identified	Indoor sample spores/m3							Raw	Spores/		
	<100			1K		10	OΚ	>	100k	count	m3
Generally able to grow indoors*											
Alternaria										1	13
Bipolaris/Drechslera group										ND	< 13
Chaetomium										ND	< 13
Cladosporium										ND	< 13
Curvularia										ND	< 13
Nigrospora										ND	< 13
Penicillium/Aspergillus types†										ND	< 13
Stachybotrys										ND	< 13
Torula								П		ND	< 13
Seldom found growing indoors**											
Ascospores††										1	53
Basidiospores††								П		1	53
Rusts										ND	< 13
Smuts, Periconia, Myxomycetes††										ND	< 13
Total											119

<sup>\*</sup>The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

<sup>\*\*</sup>These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

<sup>†</sup>The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

<sup>††</sup>Most of these spore types are not seen with culturable methods (Anderson sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores.

<sup>‡</sup>Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.



Report for:

Mr. Wes Frey Hygiene Technologies International, Inc.: Northern California 3127 Bowen Island Street West Sacramento, CA 95691

Regarding: Project: 20802001

EMĹ ID: 391883

Approved by:

Lab Manager Magzoub Ismail Dates of Analysis: Culturable air fungi (Incl. Asp spp.): 02-29-2008 Spore trap analysis: 02-27-2008

Project SOPs: Culturable air fungi (Incl. Asp spp.) (I100002), Spore trap analysis (I100000)

This coversheet is included with your report in order to comply with AIHA and ISO accreditation requirements.

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

5473 Kearny Villa Road, Suite 130, San Diego, CA 92123 (858) 569-5800 Fax (858) 569-5806 www.emlab.com

Client: Hygiene Technologies International, Inc.:

Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-29-2008

Re: 20802001

#### **CULTURABLE AIR FUNGI REPORT**

Location:		02001- 1outME		02001- 02ME		02001- 03ME		02001- 04ME
Comments (see below)	N	lone	N	lone	N	Vone	N	lone
Lab ID-Version‡:	172	0563-1	1720	0564-1	172	0565-1	172	0566-1
	raw ct.	cfu*/m3	raw ct.	cfu*/m3	raw ct.	cfu*/m3	raw ct.	cfu*/m3
Acremonium								
Alternaria								
Aspergillus flavus								
Aspergillus fumigatus								
Aspergillus nidulans								
Aspergillus niger								
Aspergillus ochraceus								
Aspergillus versicolor								
Aureobasidium	1	18						
Basidiomycetes								
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	12	212						
Curvularia								
Epicoccum								
Fusarium								
Non-sporulating fungi	3	53						
Paecilomyces								
Penicillium								
Phoma								
Rhizopus								
Stachybotrys chartarum								
Ulocladium								
Yeasts	6	106						
Positive Hole	400		400		400		400	
Sample volume (liters)	56.6		56.6		56.6		56.6	
TOTAL CFU*/M3	1 1	389		< 18		< 18		< 18

<sup>\*</sup> cfu = colony forming units

Positive hole correction chart used for all calculations

**Comments:** 

Note: Interpretation is left to the company and/or persons who conducted the field work. Variation is an inherent part of biological sampling. The presence or absence of a few genera in small numbers should not be considered abnormal.

NORMAL SPORE LEVELS: Indoor spore levels usually average 30 to 80% of the outdoor spore level at the time of sampling, with the same general distribution of spore types. Filtered air, air-conditioned air, or air remote from outside sources may average 5 to 15% of the outside air at the time of sampling. (These percentages are guidelines, only. A major factor is the accessibility of outdoor air. A residence with open doors and windows and heavy foot traffic may average 95% of the outdoor level while high rise office buildings with little air exchange may average 2%. Dusty interiors may exceed 100% of the outdoors to some degree, but will still mirror the outdoor distribution of spore types.) PROBLEM INTERIORS: A substantial increase of one or two spore types which are inconsistent with and non-reflective of the outside distribution of spore types is usually indicative of an indoor reservoir of mold growth.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

<sup>‡</sup> A "Version" greater than 1 indicates amended data.

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Client: Hygiene Technologies International, Inc.:

Date of Submittal: 02-22-2008 Northern California Date of Receipt: 02-22-2008 C/O: Mr. Wes Frey Date of Report: 02-29-2008

Re: 20802001

#### **CULTURABLE AIR FUNGI REPORT**

Location:		02001- 05ME		02001- 06ME		02001- 07ME		02001- 08ME
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	172	0567-1	1720	0568-1	172	0569-1	172	0570-1
	raw ct.	cfu*/m3						
Acremonium								
Alternaria								
Aspergillus flavus								
Aspergillus fumigatus								
Aspergillus nidulans								
Aspergillus niger							1	18
Aspergillus ochraceus								
Aspergillus versicolor								
Aureobasidium					1	18		
Basidiomycetes								
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium							1	18
Curvularia								
Epicoccum								
Fusarium								
Non-sporulating fungi								
Paecilomyces								
Penicillium								
Phoma								
Rhizopus								
Stachybotrys chartarum								
Ulocladium								
Yeasts	1	18	1	18				
Positive Hole	400		400		400		400	
Sample volume (liters)	56.6		56.6		56.6		56.6	
TOTAL CFU*/M3	1 1	18		18		18		36

<sup>\*</sup> cfu = colony forming units

Positive hole correction chart used for all calculations

**Comments:** 

Note: Interpretation is left to the company and/or persons who conducted the field work. Variation is an inherent part of biological sampling. The presence or absence of a few genera in small numbers should not be considered abnormal.

NORMAL SPORE LEVELS: Indoor spore levels usually average 30 to 80% of the outdoor spore level at the time of sampling, with the same general distribution of spore types. Filtered air, air-conditioned air, or air remote from outside sources may average 5 to 15% of the outside air at the time of sampling. (These percentages are guidelines, only. A major factor is the accessibility of outdoor air. A residence with open doors and windows and heavy foot traffic may average 95% of the outdoor level while high rise office buildings with little air exchange may average 2%. Dusty interiors may exceed 100% of the outdoors to some degree, but will still mirror the outdoor distribution of spore types.) PROBLEM INTERIORS: A substantial increase of one or two spore types which are inconsistent with and non-reflective of the outside distribution of spore types is usually indicative of an indoor reservoir of mold growth.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

<sup>‡</sup> A "Version" greater than 1 indicates amended data.

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Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wes Frey

Date of Submittal: 02-22-2008

Date of Receipt: 02-22-2008

Date of Report: 02-29-2008

Re: 20802001

#### **CULTURABLE AIR FUNGI REPORT**

Location:	20802001-VM09ME		20802001-	VM10outME
Comments (see below)	1	None	N	Vone
Lab ID-Version‡:	172	20571-1	172	0572-1
	raw ct.	cfu*/m3	raw ct.	cfu*/m3
Acremonium				
Alternaria				
Aspergillus flavus				
Aspergillus fumigatus				
Aspergillus nidulans				
Aspergillus niger				
Aspergillus ochraceus				
Aspergillus versicolor				
Aureobasidium				
Basidiomycetes				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	1	18	42	777
Curvularia				
Epicoccum			1	18
Fusarium				
Non-sporulating fungi			3	53
Paecilomyces				
Penicillium				
Phoma				
Rhizopus				
Stachybotrys chartarum				
Ulocladium				
Yeasts				
Positive Hole	400		400	
Sample volume (liters)	56.6		56.6	
TOTAL CFU*/M3		18		848

<sup>\*</sup> cfu = colony forming units

Positive hole correction chart used for all calculations

**Comments:** 

Note: Interpretation is left to the company and/or persons who conducted the field work. Variation is an inherent part of biological sampling. The presence or absence of a few genera in small numbers should not be considered abnormal.

NORMAL SPORE LEVELS: Indoor spore levels usually average 30 to 80% of the outdoor spore level at the time of sampling, with the same general distribution of spore types. Filtered air, air-conditioned air, or air remote from outside sources may average 5 to 15% of the outside air at the time of sampling. (These percentages are guidelines, only. A major factor is the accessibility of outdoor air. A residence with open doors and windows and heavy foot traffic may average 95% of the outdoor level while high rise office buildings with little air exchange may average 2%. Dusty interiors may exceed 100% of the outdoors to some degree, but will still mirror the outdoor distribution of spore types.)

PROBLEM INTERIORS: A substantial increase of one or two spore types which are inconsistent with and non-reflective of the outside

PROBLEM INTERIORS: A substantial increase of one or two spore types which are inconsistent with and non-reflective of the outside distribution of spore types is usually indicative of an indoor reservoir of mold growth.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

<sup>‡</sup> A "Version" greater than 1 indicates amended data.



3625 Del Amo Boulevard, Suite 180 Torrance, California 90503-1643 (310) 370-8370 (310) 370-2474 FAX

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3625 Del Amo Boulevard, Sulto 160 Torrance, California 90503-1643 (310) 370-8370 (310) 370-2474 FAX www.rygienetech.com

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Report for:

Mr. Wes Frey Hygiene Technologies International, Inc.: Northern California 3127 Bowen Island Street West Sacramento, CA 95691

Regarding: Project: 20802001

EMĹ ID: 390737

Approved by:

Lab Manager

Dr. Kamashwaran Ramanathan

Dates of Analysis:

Direct microscopic exam (Qualitative): 02-22-2008

Spore trap analysis: 02-22-2008

Project SOPs: Direct microscopic exam (Qualitative) (I100005), Spore trap analysis (I100000)

This coversheet is included with your report in order to comply with AIHA and ISO accreditation requirements.

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

3800 Watt Ave., Suite 145, Sacramento, CA 95821 (650) 829-5800 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wes Frey Date of Sampling: 02-15-2008 Date of Receipt: 02-20-2008 Date of Report: 02-22-2008

Re: 20802001

### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		02001- 08CCJL		02001- 09CCJL		02001- 10CCJL		02001- 11CCJL
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	171	6404-1	171	6405-1	171	6406-1	171	6407-1
	raw ct.	spores/m3						
Alternaria		_	3	40	1	13		
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*	4	213	3	160	2	107	1	53
Bipolaris/Drechslera group								
Botrytis								
Chaetomium	1	13						
Cladosporium	4	213	1	53	3	160	1	53
Curvularia								
Epicoccum					1	13		
Fusarium								
Myrothecium								
Nigrospora								
Other brown					1	13		
Other colorless								
Penicillium/Aspergillus types†								
Pithomyces								
Rusts*	2	27						
Smuts*, Periconia, Myxomycetes*	2	27			1	13		
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	3+		3+		3+		2+	
Hyphal fragments/m3	< 13		27		< 13		< 13	
Pollen/m3	< 13		13		13		< 13	
Skin cells (1-4+)	3+		4+		3+		1+	
Sample volume (liters)	75		75		75		75	
TOTAL SPORE/m3		493		253		319		106

**Comments:** 

<sup>\*</sup> Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

<sup>†</sup> The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

<sup>††</sup>Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

<sup>‡</sup> A "Version" greater than 1 indicates amended data.

EMLab ID: 390737, Page 2 of 2

3800 Watt Ave., Suite 145, Sacramento, CA 95821 (650) 829-5800 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.: Date of Sampling: 02-15-2008 Northern California Date of Receipt: 02-20-2008

C/O: Mr. Wes Frey
Re: 20802001

Date of Report: 02-22-2008

#### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		02001-		02001-		02001- 14CCJL		02001- 15CCJL
Comments (see below)		TM112CCJL None		TM113CCJL None			I IVI I	A
` ´					None			
Lab ID-Version‡:	171	6408-1	171	6409-1	171	6410-1	171	6411-1
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria			3	40	1	13		
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*	1	53	1	53			3	160
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	2	107	9	480	6	320	2	107
Curvularia					1	13		
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other brown			1	13				
Other colorless								
Penicillium/Aspergillus types†							3	40
Pithomyces								
Rusts*					1	13		
Smuts*, Periconia, Myxomycetes*	2	27	1	13			1	13
Stachybotrys								
Stemphylium								
Torula								
Ulocladium			1	13				
Zygomycetes								
Background debris (1-4+)††	3+		3+		3+		2+	
Hyphal fragments/m3	< 13		40		< 13		27	
Pollen/m3	13		< 13		27		< 13	
Skin cells (1-4+)	3+		3+		3+		2+	
Sample volume (liters)	75		75		75		75	
TOTAL SPORE/m3  Comments: A) The 3 raw count Paniail		187		612		359		320

Comments: A) The 3 raw count *Penicillium/Aspergillus* type spores were present as a single clump.

<sup>\*</sup> Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

<sup>†</sup> The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

<sup>††</sup>Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

<sup>‡</sup> A "Version" greater than 1 indicates amended data.

3800 Watt Ave., Suite 145, Sacramento, CA 95821 (650) 829-5800 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wes Frey

Date of Sampling: 02-15-2008 Date of Receipt: 02-20-2008 Date of Report: 02-22-2008

Re: 20802001

### DIRECT MICROSCOPIC EXAMINATION REPORT

(Wet Mount)

Background Debris and/or	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or	Other Comments††	General Impression
Description	Spores Fresent	sporulating structures†	Comments	Impression
Lab ID-Version‡: 1	716396-1: Swab san	mple 20802001-S09JL		
Moderate	Very few	< 1+ zygomycetes (spores, sporangiophores) < 1+ Penicillium species (spores, hyphae, conidiophores) < 1+ Cladosporium species (spores, hyphae) < 1+ Alternaria species (spores, hyphae)	None	Minimal mold growth
	1	pple 20802001-S10JL		
Moderate	Very few	< 1+ Penicillium species (spores, hyphae, conidiophores) < 1+ Cladosporium species (spores, hyphae) < 1+ Aspergillus species (spores, hyphae, conidiophores) < 1+ Alternaria species (spores, hyphae)	None	Minimal mold growth
Lab ID-Version: 17	16398-1: Swab sam	ple 20802001-S11JL		
Moderate	Very few	< 1+ Cladosporium species (spores, hyphae)	None	Minimal mold growth
Lab ID-Version: 17	'16399-1: Swab sam	ple 20802001-S12JL		
Moderate	Very few	< 1+ Cladosporium species (spores, hyphae)	None	Minimal mold growth
Lab ID-Version: 17	16400-1: Swab sam	ple 20802001-S13JL		
Moderate	Very few	< 1+ zygomycetes (spores, sporangiophores) < 1+ <i>Cladosporium</i> species (spores, hyphae)	None	Minimal mold growth
Lab ID-Version: 17	16401-1: Swab sam	ple 20802001-S14JL		
Moderate	Very few	1+ Alternaria species (spores, hyphae, conidiophores) < 1+ zygomycetes (spores, sporangiophores) < 1+ Cladosporium species (spores, hyphae)	None	Mold growth

EMLab ID: 390737, Page 1 of 2

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures†	Other Comments††	General Impression			
Lab ID-Version‡: 1	716402-1: Swab san	mple 20802001-S15JL					
Moderate	Very few	1+ zygomycetes (spores, sporangiophores) < 1+ Cladosporium species (spores, hyphae) < 1+ Aspergillus species (spores, hyphae, conidiophores) < 1+ Alternaria species (spores, hyphae)	None	Mold growth			
Lab ID-Version: 17	Lab ID-Version: 1716403-1: Swab sample 20802001-S16JL						
Moderate	Very few	< 1+ Cladosporium species (spores, hyphae)	None	Minimal mold growth			

<sup>‡</sup> A "Version" greater than 1 indicates amended data.



3625 Del Amo Boulevard, Suite 180 Torrance, California 90503-1643 (910) 370-8370 (310) 370-2474 FAX

### Request For Analysis www.hyglenetech.com

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Project Number/Purcha	se Order: 🚅	080200	Date Submitted: 2/19/09			
Project Contact:(	Nes Fre	4.	Turnaround Required:			
Lab Destination:		<u>. o</u>	Lab Contact:			
SAMPLE ID	VOLUME	MEDIA	ANALYSIS REQUESTED			
2094001-30956						
- 31031						
-8113L		<u> </u>				
- \$125L						
-6135L						
-S14-JL						
-315JL						
	<u></u>					
-TM108cc3L	<u>, 1127</u>	allergenco D				
-TM109case						
-TMILOCCOL	<u> </u>					
TMILICEST						
-TM112CCSU						
-TM113ccs1						
- TM 114CCJI						
V7M115CC3L	$\overline{}$	₩.				
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Lab Use Only: 3907	37					
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Report for:

Mr. Wes Frey Hygiene Technologies International, Inc.: Northern California 3127 Bowen Island Street West Sacramento, CA 95691

Regarding: Project: 20802001

EMĹ ID: 390731

Approved by:

Lab Manager

Dr. Kamashwaran Ramanathan

Dates of Analysis:

Direct microscopic exam (Qualitative): 02-22-2008

Project SOPs: Direct microscopic exam (Qualitative) (I100005)

This coversheet is included with your report in order to comply with AIHA and ISO accreditation requirements.

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

1150 Bayhill Drive, Suite 100, San Bruno, CA 94066 (650) 829-5800 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wes Frey

Date of Sampling: 02-15-2008

Date of Receipt: 02-20-2008

Date of Report: 02-22-2008

Re: 20802001

### DIRECT MICROSCOPIC EXAMINATION REPORT

(Wet Mount)

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures†	Other Comments††	General Impression
Lab ID-Version‡: 1	716476-1: Tape sar	nple 20802001-TL59ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	16477-1: Tape sam	ple 20802001-TL60ME		L
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	16478-1: Tape sam	ple 20802001-TL61ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	16479-1: Tape sam	ple 20802001-TL62ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	16480-1: Tape sam	ple 20802001-TL63ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	16481-1: Tape sam	ple 20802001-TL64ME		L
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	16482-1: Tape sam	ple 20802001-TL65ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	16483-1: Tape sam	ple 20802001-TL66ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	16484-1: Tape sam	ple 20802001-TL67ME		
Light	Very few		None	Normal trapping
Lab ID-Version: 17	16485-1: Tape sam	ple 20802001-TL68ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	16486-1: Tape sam	ple 20802001-TL69ME		
Light	Very few	None	None	Normal trapping

EMLab ID: 390731, Page 1 of 4

Background Debris and/or	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or	Other Comments††	General Impression
Description	Spores Tresent	sporulating structures†	Comments	Impression
•	716487-1: Tape sar	mple 20802001-TL70ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	/ 16488-1: Tape sam	 ple 20802001-TL71ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	716489-1: Tape sam	ple 20802001-TL72ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	716490-1: Tape sam	ple 20802001-TL73ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	/ 16491-1: Tape sam	ple 20802001-TL74ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	716492-1: Tape sam	ple 20802001-TL75ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	   16493-1: Tape sam	ple 20802001-TL76ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	 /16494-1: Tape sam	ple 20802001-TL77ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	 /16495-1: Tape sam	ple 20802001-TL78ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	716496-1: Tape sam	ple 20802001-TL79ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	 /16497-1: Tape sam	ple 20802001-TL80ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	 /16498-1: Tape sam	ple 20802001-TL81ME		
Light	Very few	None	None	Normal trapping
Lab ID-Version: 17	716499-1: Tape sam	ple 20802001-TL82ME		
Moderate	Very few	None	None	Normal trapping

Background Debris and/or	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or	Other Comments††	General Impression			
Description	Spores Tresent	sporulating structures†	Comments	Impression			
1		mple 20802001-TL83ME					
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 17	Lab ID-Version: 1716501-1: Tape sample 20802001-TL84ME						
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 17	/ 16502-1: Tape sam	ple 20802001-TL85ME					
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 17	716503-1: Tape sam	ple 20802001-TL86ME					
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 17	 	ple 20802001-TL87ME					
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 17	Lab ID-Version: 1716505-1: Tape sample 20802001-TL88ME						
Moderate	Very few	None	None	Normal trapping			
Lab ID-Version: 17	 /16506-1: Tape sam	ple 20802001-TL89ME					
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 1716507-1: Tape sample 20802001-TL90ME							
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 17	 716508-1: Tape sam	ple 20802001-TL91ME					
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 1716509-1: Tape sample 20802001-TL92ME							
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 1716510-1: Tape sample 20802001-TL93ME							
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 1716511-1: Tape sample 20802001-TL94ME							
Light	Very few	None	None	Normal trapping			
Lab ID-Version: 1716512-1: Tape sample 20802001-TL95ME							
Light	Very few	None	None	Normal trapping			

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures†	Other Comments††	General Impression	
Lab ID-Version‡: 1716513-1: Tape sample 20802001-TL96ME					
Light	Very few	None	None	Normal trapping	
Lab ID-Version: 1716514-1: Tape sample 20802001-TL97ME					
Light	Very few	None	None	Normal trapping	
Lab ID-Version: 1716515-1: Tape sample 20802001-TL98ME					
Light	Very few	None	None	Normal trapping	

<sup>‡</sup> A "Version" greater than 1 indicates amended data.

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Project Number/Purchas	se Order: 2-4	280200i	Date Submitted: 2/19/09
Project Contact:			Turnaround Required: Standard.
	~		Lab Contact;
Lab Destination:		L COTOTA	ANALYSIS REQUESTED
SAMPLE ID	VOLUME	MEDIA	surface Rungi ID qualitative
<u> 20802001- TL59ME</u>	<u> </u>	tape_	Sartace from 1
-TLGOME	············	<u> </u>	<u> </u>
-TLEIME			
-T2-62-ME		<del> </del>	
-TL63ME		<del> </del>	
-TLGAME		<del>                                     </del>	
-7465ME	<u> </u>	<u> </u>	<u> </u>
-TLGGME		<u> </u>	<u> </u>
-TLQ7MG			
-TLOSME		<u> </u>	
-TLGGE			
- 1L70ME		<del>                                     </del>	
- 1L71MG	<u> </u>		
-7172MG		<u> </u>	
-7L73ME			·
-7L7AME	<b>V</b>	\ \	<u> </u>
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3625 Del Amo Boulevard, Suite 180 Torrance, California 90503-1643 (310) 370-8370 (310) 370-2474 FAX www.hygienetech.com

· .			n. alima zhalat
Project Number/Purchas			Date Submitted: Z/glop
Project Contact:	Wes Frey	<u> </u>	Turnaround Required: Standard
Lab Destination:	EM labo		Lab Contact:
SAMPLE ID	VOLUME	MEDIA	ANALYSIS REQUESTED
10902001-7275ME	N/A	tope	surface Cungi ID qualitative
-TL76ME	<u> </u>		
- <u>7</u> 177ME			
-TL78ME	<u> </u>		
TL79AB			<del>                                     </del>
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3625 Del Amo Boulevard, Suite 180 Torrence, California 90503-1645 (310) 370-8370 (310) 370-2474 FA>

www.hygienetoch.com

Project Number/Purchas	ue Order: 70	707001	Date Submitted: 24967
-			Turnaround Required: Standard.
Project Contact:			Lab Contact:
Lab Destination:	<del> </del>	MEDIA	ANALYSIS REQUESTED
SAMPLE ID	VOLUMB		surface Sung: Inqualitative
20802001-TL91ME	NA	Tape	
TURME		{ }	
TLASME			
TLAYME			
TLASPAC		<del></del>	
TLAKE		<u></u>	
TL97ME		<del></del>	3/-
TLARME	<u> </u>	<del></del>	
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Special Instructions:	<u> </u>		
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nt Vibrardamine vi		Please include sign	sture, date, and time
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